



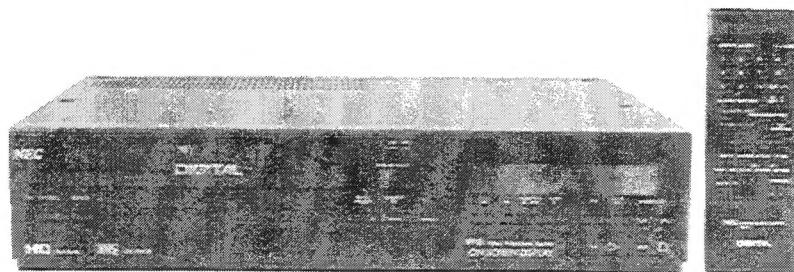
DIGITAL
MODEL DX-1000G

COLOR VIDEO CASSETTE RECORDER
SERVICE MANUAL

PARTS NO. 549-91-0408



Better Service
Better Reputation
Better Profit



SPECIFICATIONS

Format	: VHS PAL standard	Video	
Recording system	: Rotary, slant azimuth two-head helical scanning system	Input	: 0.5 to 2.0 Vp-p, 75 ohms unbalanced
Video signal system	: PAL colour and CCIR monochrome signal, 625 lines.	Output	: 1.0 ±0.1 Vp-p, 75 ohms unbalanced
Tape width	: 12.65 mm (1/2 inch)	S/N ratio	: More than 43 dB
Tape speed	: 23.39 mm/sec.	Horizontal resolution	: 250 lines with the SHARPNESS control at center position.
Maximum recording time	: 240 min. with E-240 video cassette	Audio	
Temperature operating storage	: 5°C to 40°C : -20°C to 60°C	Input	: -8 dB, 47 kohms unbalance
Channel coverage	: VHF BAND VL: 47 - 118 MHz VHF BAND VH: 118 - 300 MHz UHF BAND U: 470 - 862 MHz	Output	: -6dB, high impedance load
Antenna output	: UHF channels 30-39 (adjustable) 75 ohms unbalanced	S/N ratio	: More than 40 dB
Power consumption	: 40 Watts	Frequency range	: 70 Hz to 10,000 Hz
Power requirement	: AC 220V ~ 50 Hz	Timer	: Maximum 1-year/4-event
		Dimensions	: 430mm (W) × 99mm (H) × 175mm (D)
		Weight	: 7.8 kg
		Provided accessories	: Remote control unit Antenna cable Size R6 batteries (2 pieces)

Design and specifications are subject to change without notice

NEC Corporation
TOKYO, JAPAN

CONTENTS

SECTION 1

Precautions during Servicing	1-1
Safety Check after Servicing	1-2
General notes	1-4
Features	1-5
Controls and components	1-6
Antenna connection	1-9
Video channel setting	1-10
Camera recording	1-11
Before requesting service	1-12

SECTION 2

DISASSEMBLY

1. REMOVING THE CASE

1-1. Top cover	2-1
1-2. Bottom cover	2-1
1-3. Front panel	2-1

2. CIRCUIT BOARD LOCATIONS

2-1. Top view	2-2
2-2. Bottom view	2-2

3. REMOVING THE CIRCUIT BOARDS

3-1. Sub function circuit board	2-3
3-2. Timer/Function circuit board	2-3
3-3. Preamp circuit board	2-3
3-4. Tuner/IF circuit board	2-4
3-5. Power/Regulator circuit board	2-4
3-6. Jack terminal circuit board	2-5
3-7. Audio circuit board	2-5
3-8. Digital circuit board	2-6
3-9. VPS Decoder circuit board	2-6
3-10. ON Screen circuit board	2-6
3-11. S/S/V circuit board	2-7

4. REMOVING THE CASSETTE MECHANISM

4-1. Removing the cassette housing assembly	2-8
4-2. Front cover	2-8
4-3. Mode sensor circuit board	2-9
4-4. End sensor circuit board	2-9
4-5. Mecha junction circuit board	2-9

SECTION 3

ADJUSTMENT

1. MECHANICAL ADJUSTMENT

1-1. Servicing jigs and tools	3-1
1-2. Mechanism assembly	3-2
1-2-1 Removing the mechanism assembly	3-2
1-2-2 Mechanism parts locations	3-3
1-3. Before disassembling parts on the chassis	3-4
1-4. Before adjusting the mechanism	3-5
1-5. Servicing precautions	3-5
1-6. Replacement of upper rotating dram assembly	3-6
1-7. Replacement of drum assembly	3-6
1-8. Replacement of ground plate	3-7
1-9. Audio/control head	3-8
1-10. Full erase head	3-9
1-11. Impedance roller sub assembly	3-9
1-12. Intermediate gear	3-9
1-13. S slant base/TU slant base sub assembly	3-10
1-14. Entire mode cam assembly	3-11
1-15. Capstan motor	3-12
1-16. Pinch arm sub assembly	3-12
1-17. Tension regulation band assembly	3-12
1-18. Adjusting the tension regulation arm position	3-13
1-19. Supply reel disk	3-13
1-20. Take-up reel disk	3-13
1-21. Adjustments when replacing the supply and take-up reels	3-14

1-22. Tension regulation arm assembly	3-14
1-23. Measuring and checking the FWD reel torque	3-15
1-24. Measuring and checking the braking torque	3-15

2. CHECKING AND ADJUSTING THE TAPE PATH

2-1. Tape path mechanism	3-16
2-2. Cecking the tape transport system	3-16
2-3. Adjusting the tape transport system	3-17
2-3-1 Adjusting the guide roller height (vertical pole height adjustment)	3-17
2-3-2 Adjsting the guide pole and reverse pin heights	3-17

3. INTERCOMPATIBILITY ADJUSTMENTS

3-1. Checing the FM waveroms	3-20
3-1-1 Check 1: Checking the playback switching point	3-20
3-1-2 Check 2: Checking the FM waveform	3-20
3-1-3 Check 3	3-20
3-2. Coarse adjustment of FM waveroms (preliminary adjustments)	3-21
3-2-1 Drum entrance side	3-21
3-2-2 Drum exit	3-22
3-3. Fine adjustment for intercompatibility	3-22
3-4. Ace head adjustment	3-23
3-5. Adjusting the CTL position	3-23
3-6. Final testing and checking	3-23

4. ELECTRICAL ADJUSTMENTS

4-1. Preparation	3-24
4-1-1 Required test equipment and jig	3-24
4-1-2 Alignment tape contents	3-24
4-2. Servo circuit (S/S/V board)	3-25
4-3. Audio circuit (AUDIO board)	3-28
4-4. Tuner/IF circuit	3-29
4-5. Vlideo circuit (S/S/V voard)	3-30
4-6. Digital	3-35

SECTION 4

DIAGRAMS AND TIMING CHARTS

1. GENERAL BLOCK DIAGRAM

2. BLOCK DIAGRAM

2-1. System control block diagram	4-2
2-2. Servo control block diagram	4-3
2-3. Video/Chroma block diagram	4-4
2-4. Audio block diagram	4-5
2-5. Timer function block diagram	4-6
2-6. Tuner/IF block diagram	4-7
2-7. Digital block diagram	4-8

3. TIMING CHART

3-1. System control timing chart	4-9
3-2. Assemble record timiming chart 1	4-10
3-3. Assemble record timing chart 2	4-10
3-4. Drum servo timing chart 1	4-11
3-5. Capstan servo timing chart 2	4-11

4. SCHEMATIC/CIRCUIT BOARD DIAGRAMS

4-1. Frame wiring	4-12
4-2. Syscon schematic diagram	4-13
4-3. Servo schematic diagram	4-14
4-4. Video/Chroma schematic diagram	4-15
4-5. Syscon/Servo/Video circuit board	4-16
4-6. Audio schematic diagram	4-17
4-7. Audio circuit board	4-17
4-8. Pre amp schematic diagram	4-18
4-9. Pre amp circuit board	4-19
4-10. Timer function schematic diagram	4-20
4-11. Timer function circuit board	4-21
4-12. Sub function schematic diagram	4-22

4-13. Sub function circuit board	4-23
4-14. Tuner/IF schematic diagram	4-24
4-15. Tuner/IF circuit board	4-25
4-16. VPS Decoder schematic diagram	4-26
4-17. VPS Decoder circuit board	4-27
4-18. ON Screen schematic diagram	4-28
4-19. ON Screen circuit board	4-29
4-20. Digital schematic diagram	4-30
4-21. Digital circuit board	4-31
4-22. Power/regulator schematic diagram	4-32
4-23. Power/regulator circuit board	4-33
4-24. Jack terminal schematic diagram	4-34
4-25. Jack terminal circuit board	4-34
4-26. Other mini-circuit board	4-35

SECTION 5

EXPLODED VIEW

5-1. Cabinet section	5-1
5-2. Chassis section	5-2
5-3. Mechanism (I) section	5-3
5-4. Mechanism (II) section	5-5
5-5. Cassette housing section	5-7
5-6. Wireless remote control section	5-8
5-7. Accessories	5-9

SECTION 6

REPLACEMENT PARTS LIST

SECTION 1

Important Safety Precautions

Prior to shipment from the factory, the products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the  symbol and shaded (▨) parts are critical for safety. Replace only with specified part numbers.

Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Use specified internal wiring. Note especially:

- 1) Wires covered with PVC tubing
- 2) Double insulated wires
- 3) High voltage leads

4. Use specified insulating materials for hazardous live parts. Note especially:

- 1) Insulation Tape
- 2) PVC tubing
- 3) Spacers
- 4) Insulation sheets for transistors

5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering. (Fig. 1)

6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

7. Check that replaced wires do not contact sharp edged or pointed parts.

8. When a power cord has been replaced, check that 10–15 kg of force in any direction will not loosen it. (Fig. 2)

9. Also check areas surrounding repaired locations.

10. Products using cathode ray tubes (CRTs)

In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the parts specified. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

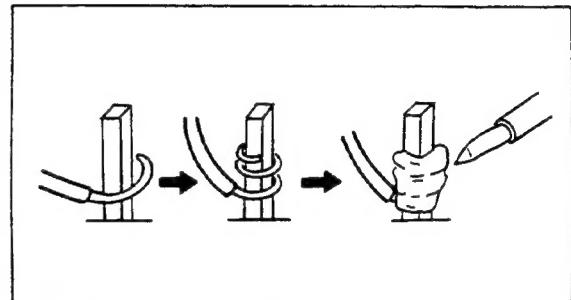


Fig. 1

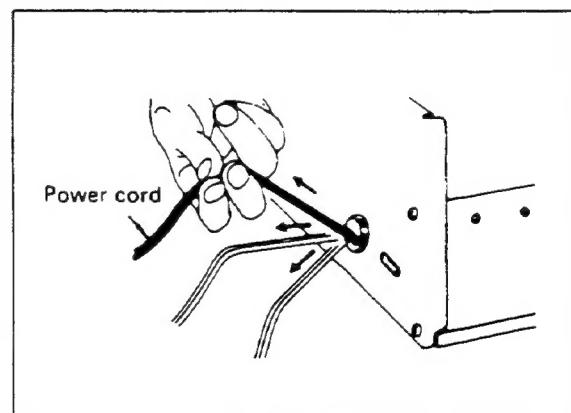


Fig. 2

●Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) See table below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d),(d') between soldered terminals, and between terminals and surrounding metallic parts. See table below.

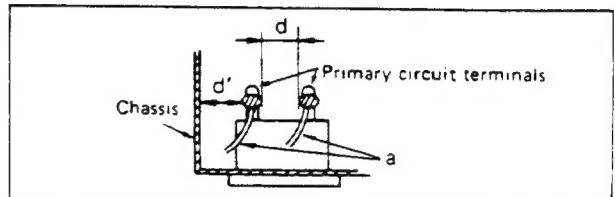


Fig. 8

Table 1: Ratings for selected areas

AC Line Voltage	Region	Insulation Resistance	Dielectric Strength	Clearance Distance(d),(d')
100 V	Japan	$\geq 1 \text{ M}\Omega/500 \text{ V DC}$	1 kV 1 minute	$\geq 3 \text{ mm}$
110 to 130 V	USA & Canada	---	900 V 1 minute	$\geq 3.2 \text{ mm}$
* 110 to 130 V 200 to 240 V	Europe Australia	$\geq 10 \text{ M}\Omega/500 \text{ V DC}$	4 kV 1 minute	$\geq 6 \text{ mm (d)}$ $\geq 8 \text{ mm (d')}$ (a: Power cord)

* Class II model only.

Note: This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

4. Leakage current test

Confirm specified or lower leakage current between B(earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method: (Power ON)

Insert load Z between B(earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure and following table.

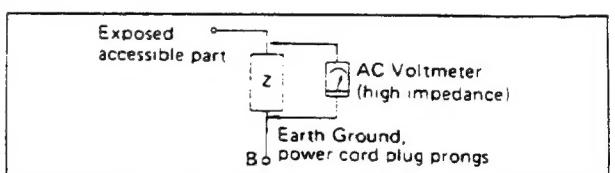


Fig. 9

Table 2: Leakage current ratings for selected areas

AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
100 V	Japan	$1 \text{ k}\Omega$	$i \leq 1 \text{ m A rms}$	Exposed accessible parts
110 to 130 V	USA & Canada	$0.15 \mu\text{F} - 1 \text{ k}\Omega$	$i \leq 0.5 \text{ m A rms}$	Exposed accessible parts
110 to 130 V 200 to 240 V	Europe Australia	$2 \text{ k}\Omega$	$i \leq 0.7 \text{ m A peak}$ $i \leq 2 \text{ m A dc}$	Antenna earth terminals
		$50 \text{ k}\Omega$	$i \leq 0.7 \text{ m A peak}$ $i \leq 2 \text{ m A dc}$	Other terminals

Note: This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

IMPORTANT: It is permissible to record television programmes only in the event that third party copyrights and other rights are not violated.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

CAUTION

Dangerous voltage inside. Refer internal servicing to qualified service personnel. To prevent electric shock or fire hazard, remove the power cord from the AC outlet prior to connecting or disconnecting any signal lead or aerial.

MAINS POWER SWITCH

The mains switch is located on the rear connector panel. Setting this switch to OFF removes all applied power from the set including the timer clock. Switching on or off the recorder section is performed with the secondary power switch, labelled OPERATE, on the front panel.

NOTE: The rating plate and the safety caution are on the rear of the unit.

CAUTION: When you are not using the VCR for a long period of time, it is recommended that you disconnect the power cord from AC outlet.

This instruction manual is important to you. Please read it. In a brief, concise manner, it shows exactly how to connect, operate and adjust the VCR for best performance. It can save you money. It shows you simple things to do and check before you call for help...so you may save the cost of unnecessary service.



Only cassettes marked "VHS" can be used with this video cassette recorder.

VHS High Quality technology is incorporated into VCR's marked "HQ". This unit is compatible with conventional VHS VCR's.

GENERAL NOTES:

- This recorder is designed to operate in a horizontal position.
- Do not install the recorder in a location near heat sources, such as radiators, air ducts, etc., or in a place subjects to direct sunlight, excessive dust, mechanical vibration or shocks.
- Allow adequate air circulation to prevent internal heat built-up. Do not place the recorder on surfaces such as rugs, blankets, etc, or near materials such as curtains or drapes, etc., that may block the ventilation holes.
- Keep the recorder and video cassette away from strong magnetic fields.
- After playing a tape, remove the video tape from the VCR if the VCR is not going to be used for an extended length of time.
- Do not transport the recorder with a video cassette in place.
- To disconnect the cord, pull it by the plug. Never pull the cord itself.
- Generally, head cleaning by the user is not required. Should snow of streaks appear in the playback picture after having used the recorder for an extended period of time, consult your nearest NEC dealer.
- Should any liquid or solid object fall into the VCR cabinet, unplug the recorder and have it checked by qualified personnel before operating it any further.
- Save the original shipping carton and packing material; they will come in handy if you ever have to ship your recorder.
- For maximum protection, repack the recorder at it was originally packed at the factory.
- This machine is designed to record and play back the PAL colour and CCIR monochrome video signals.
- Do not place any magnetism emitting device (TV set, etc.) on top of the VCR. Otherwise noise or other screen disturbances may occur.
- Do not place any object heavier than 15 kg on the VCR.

FEATURES

NEC DIGITAL NOISE REDUCTION

This VCR features NEC's Digital Noise Reduction System. Using a technique known as field correlation, video noise is dramatically reduced without loss of detail. In fact, NEC's Digital Noise Reduction system improves the video signal-to-noise ratio up to 9dB!

DIGITAL SPECIAL EFFECTS

NEC's digital technology produces noise-free STOP ACTION (still) without time lag and SLOW MOTION (1/3 normal speed).

DIGITAL PICTURE MEMORY

While viewing a tape or TV program through the VCR's built-in tuner, a live image can be memorized and frozen on the TV screen while the cassette or TV program continues to run in real-time.

STROBE ACTION

Variable Strobe effects are provided for both video playback and on-air TV broadcasts without audio interruption. This exciting feature is a new video effect and not available in conventional VCRs.

1-YEAR/4-EVENT PROGRAMMABLE TIMER

The user can programme the timer so that the VCR will automatically record up to four TV shows in the coming year. An indicator points out errors made during programming, and if a prerecorded tape with a missing safety tab is accidentally inserted, the unit will eject the cassette.

ON SCREEN FUNCTION AND TIMER DISPLAY

When you activate a tape function, such as play, fast-forward or rewind, the corresponding display appears on the TV screen. When programming the timer, a menu showing the timer contents is displayed, making remote programming easy.

MULTI FUNCTION DISPLAY

You can confirm the operating status of the VCR at a glance thanks to a fluorescent indicator that graphically shows the engaged mode. Modes shown are: PLAY, RECORDING, PAUSE/STILL, FAST FORWARD, REWIND, CUE, REVIEW and STOP. Other indications shown are CASSETTE IN, NO TAB, 4-DIGIT COUNTER.

SEGMENT RECORDING

Segment recording allows the VCR timer to automatically stop recording and shut power off. Each touch of the SEGMENT REC button will add 30 minutes worth of recording time, up to a maximum of 5 hours. In addition, the setting time can be set to one minute segments by pressing the CHANNEL/SET (V)/(A) buttons.

JET SEARCH PROVIDES FAST LOCATION OF SCENE

The picture search function runs the tape at 4 times the speed of the normal playback, making it easy to locate a specific scene. If you want to search for a particular scene faster, then you should press the Fast Forward or Rewind button a second time. When you do, the JET SEARCH function will run the tape, at 8 times normal playback.

55 FUNCTION UNIFIED REMOTE CONTROL UNIT OPERATES BOTH VCR AND TV.

The unified infrared remote control supplied with the DX-1000B is capable of operating both the VCR and compatible NEC TVs. This remote control unit can control basic VCR/TV functions as well as timer programming functions.

HQ (HIGH QUALITY) VIDEO SYSTEM

The "High Quality" circuit increases the dipping level for peak white by 20%, adding sharpness and ensuring detailed reproduction thanks to the use of a Detail Enhancer Technic.

VOLTAGE SYNTHESIZED TUNER

The built-in tuner covers all VHF and UHF channels. Of all the channels which are tunable, 40 may be conveniently memorized and recalled.

AUTO POWER ON

We have made the VCR as automatic as technically possible. When a tape is inserted, power is automatically switched on.

AUTO PLAYBACK

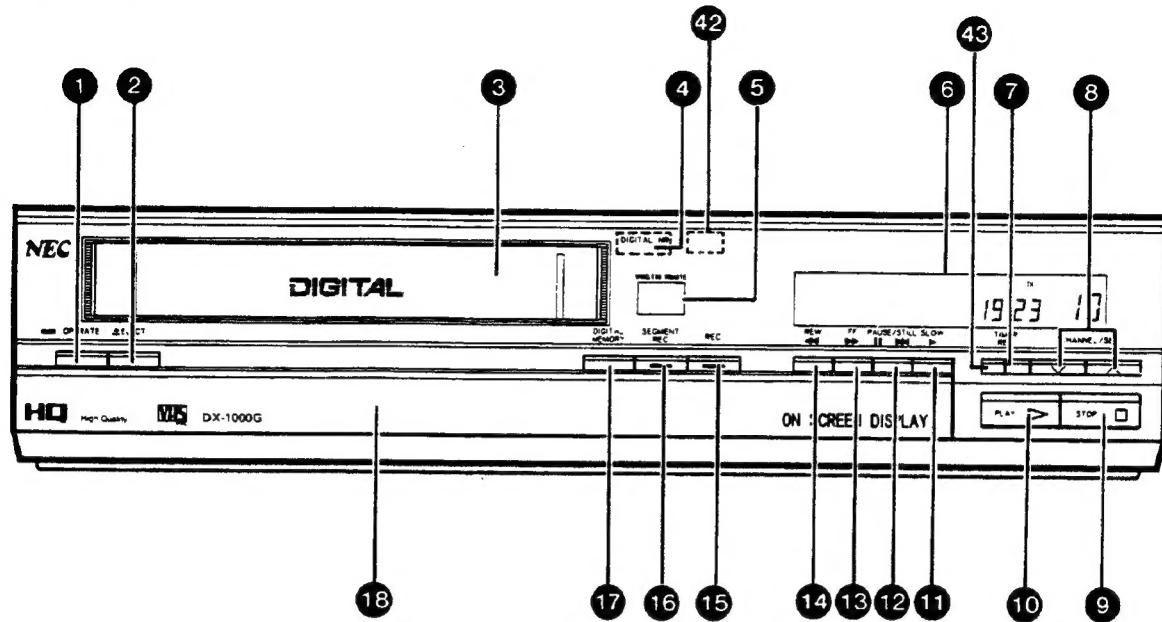
The VCR will begin playback automatically if the video cassette has no safety tab.

POWER OFF EJECT

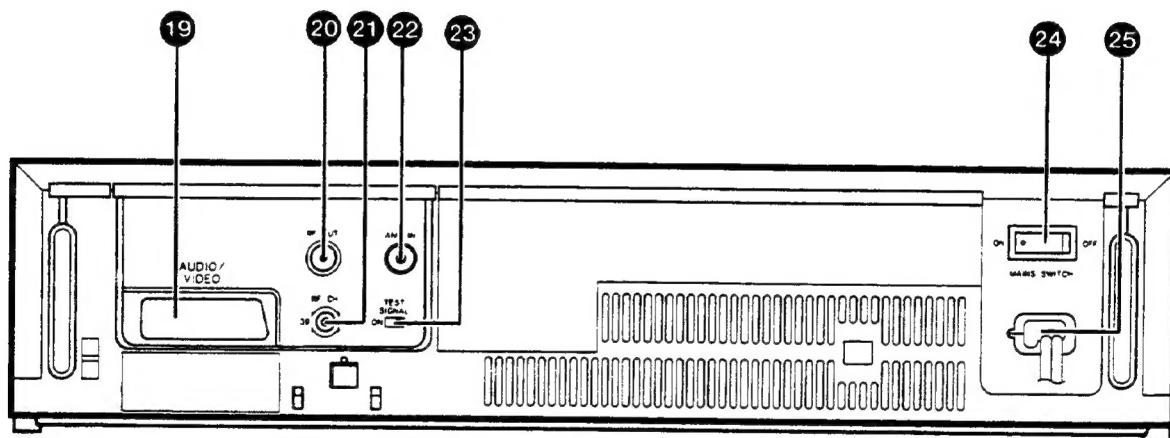
Even if the VCR is turned off, the tape can be removed by pressing the EJECT button.

CONTROLS AND COMPONENTS

FRONT VIEW



REAR VIEW



FRONT VIEW:

① OPERATE button

This button is used to turn the VCR on and off.

② EJECT button

Press this button to remove the cassette.

③ Cassette compartment

④ DIGITAL NR indicator

Lights when the DIGITAL NR switch is switched ON.

⑤ Infrared remote sensor

This sensor is used for receiving infrared signals from the remote control.

⑥ Display

⑦ TIMER REC button

This button is used for unattended recording after the timer has been programmed. When this button is on, the timer recording indicator "■" lights in the display. When this light is on, the unit is under the control of the timer and cannot be operated manually.

⑧ CHANNEL/SET (▽)/(△) buttons

Use to select the specific channel which you wish to view or record. Also used during Time Setting or Timer Programming.

⑨ STOP button

Press this button to stop the tape.

⑩ PLAY button

Press this button to play back pre-recorded tapes.

⑪ SLOW button

Press this button to activate slow motion playback.

⑫ PAUSE/STILL button

A) Use to temporarily stop the tape during recording or playback.

B) Use to view a still picture on the TV screen.

⑬ FAST FORWARD/CUE button

Press this button to:

A) move the tape forward rapidly.

B) to view a high-speed forward picture (picture search) during playback.

⑭ REWIND/REVIEW button

Press this button to:

A) rewind tape in reverse rapidly.

B) to view a high-speed reverse picture (picture search) during playback.

⑯ REC button

Recording is started by pressing this button.

⑰ SEGMENT REC button

Press this button to set the segment recording timer for simplified timer recording up to 5 hours in 30 minute segments.

⑯ DIGITAL MEMORY button

When pressed during playback or recording, a stop action picture is displayed, while the tape continues to run in real-time.

When pressed while monitoring a TV program through the VCR's built-in tuner, a still picture is displayed while the TV program continues live.

⑰ Front Compartment

REAR VIEW:

⑲ 21-pin SCART Connector (AUDIO/VIDEO connector)

A 21-pin Standardised SCART connector for connection to a TV equipped with the same type of connector.

⑳ RF OUT connector

Connect to the antenna terminal of a TV with the antenna cable (provided).

㉑ RF converter frequency adjustment screw

㉒ ANT IN terminal

Connect a TV antenna to this connector.

㉓ TEST SIGNAL switch

Normally, set this switch to the OFF position.

This switch is used when tuning your TV to the VIDEO CHANNEL

㉔ MAINS switch

To apply power to the VCR, set this switch to ON. When this switch is set to OFF, the timer clock and the built-in aerial circuit are off. In this condition, the TV connected to this VCR will not be able to properly receive off-air TV programmes. Normally, leave this switch set to ON.

㉕ Power cord

Connected AC 220 V ~, 50 Hz.

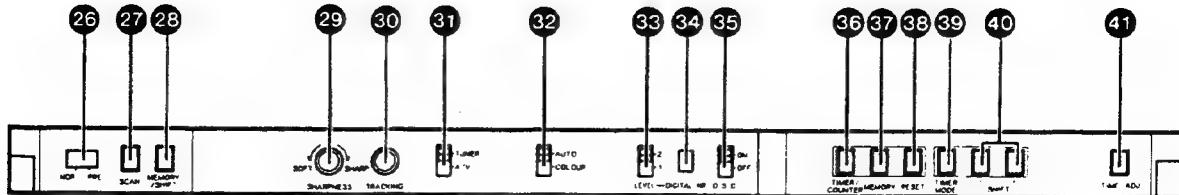
㉖ VPS signal Indicator

Lights when a VPS signal is received.

㉗ VPS REC button

This button is used for unattended recording after the timer has been programmed. When this button is on, the timer recording indicator "■" and VPS recording indicator "VPS" light in the display. When these lights are on, the unit is under the control of the VPS timer and cannot be operated manually.

FRONT COMPARTMENT



26 NORMAL/PRESET (NOR./PRE.) switch

This switch is used for Channel presetting.

This switch should usually be set to the NOR. position.

27 SCAN button

This button is used for Channel presetting.

The tuning channel moves to a higher channel by pressing this button.

28 MEMORY/SHIFT button

This button is used for Channel presetting.

This button is pressed to enter a tuned channel into memory.

29 SHARPNESS control

Slide this control to the left (SOFT) to soften the picture, and slide it to the right (SHARP) to sharpen the picture.

30 TRACKING control

Use this control during playback to fine tune the picture and eliminate or reduce noise bars.

31 Input select switch

TUNER: To record signals from the built-in tuner.
A/V: To record signals from a source connected to the SCART connector.

32 AUTO/COLOUR select switch

AUTO: Colour or B/W mode is automatically selected. Set to this position for normal use.
COLOUR: Set to this position when the input or playback video signal is in colour.

33 NR (Noise Reduction) LEVEL control

Determines the amount of digital noise reduction applied to the picture when the DIGITAL NR switch is set to the ON position.

34 DIGITAL NR (Noise Reduction) switch

When switched ON, the digital noise reduction circuit is activated, reducing video noise. Digital noise reduction is not applied when this switch is in the OFF position.

35 ON SCREEN Display (O.S.D) switch

ON: Function display appears On Screen

OFF: On Screen function display does not appear on screen.

36 TIMER/COUNTER button

This button switches the digital display between the timer and tape counter modes.

37 MEMORY (counter) button

Enables you to automatically stop the tape at "0000" during rewind or fast forward.

38 RESET button

In normal operation pressing this button, the tape counter will be reset to "0000". If this button is pressed during timer programming, the re-entered programme will be cleared.

39 TIMER MODE button

Pressing this button changes the information appearing on the display from:

PRESENT TIME to TIMER PROGRAMMING to PRESENT TIME.

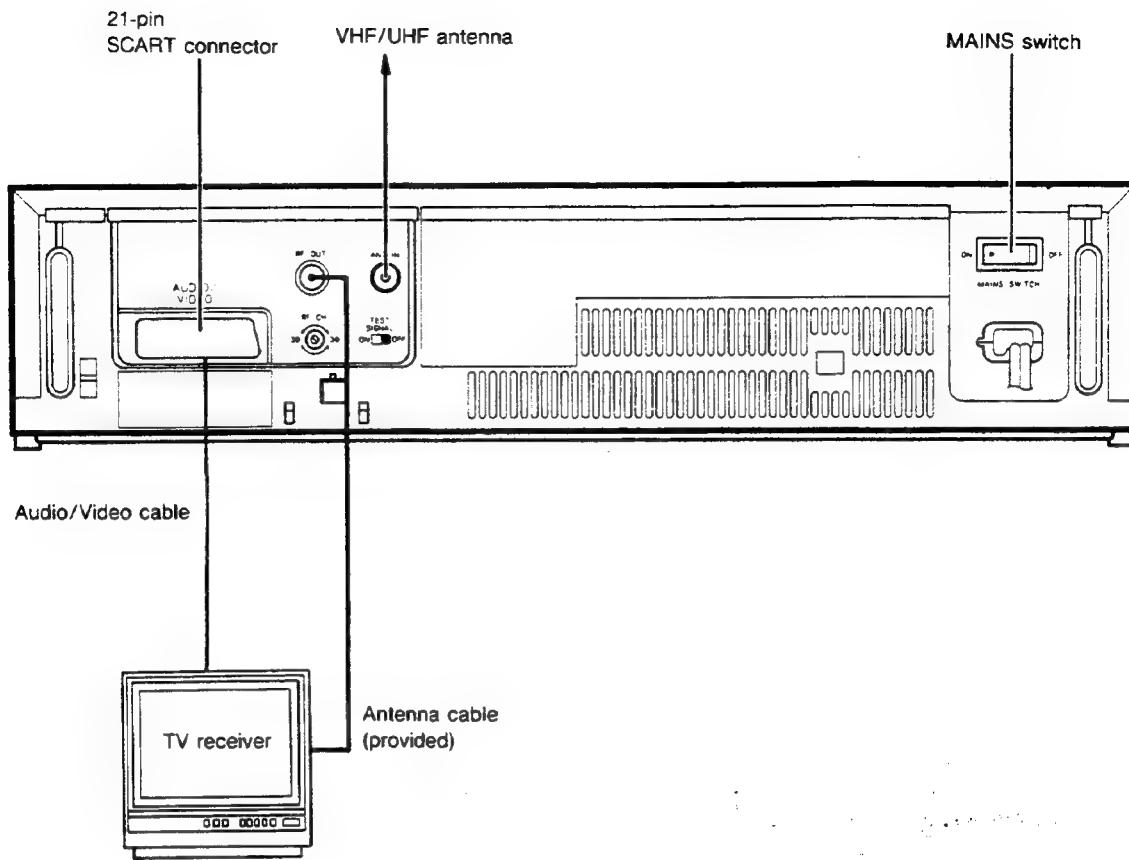
40 SHIFT (-)/(+) buttons

These buttons are used for Time Setting and Timer Programming.

41 TIME ADJUSTMENT (TIME ADJ.) button

This button is used for Time Setting.

ANTENNA CONNECTION



Procedure

1. Remove the antenna cable from the TV receiver and reconnect it to the VCR as illustrated. The VCR is then ready to record off-air programmes.
2. Connect the VCR to the TV using the antenna cable (provided) as illustrated. The TV is then ready to receive TV broadcast programmes as well as accommodate video cassette playback.
3. Connect the 21-pin SCART connector on the rear of the VCR and the SCART connector of the TV set using the Audio/Video cable.

Note:

Even when you are not using the VCR, the rear panel MAINS switch should be set to ON in order to be able to view TV broadcasts with this connection.

For reference

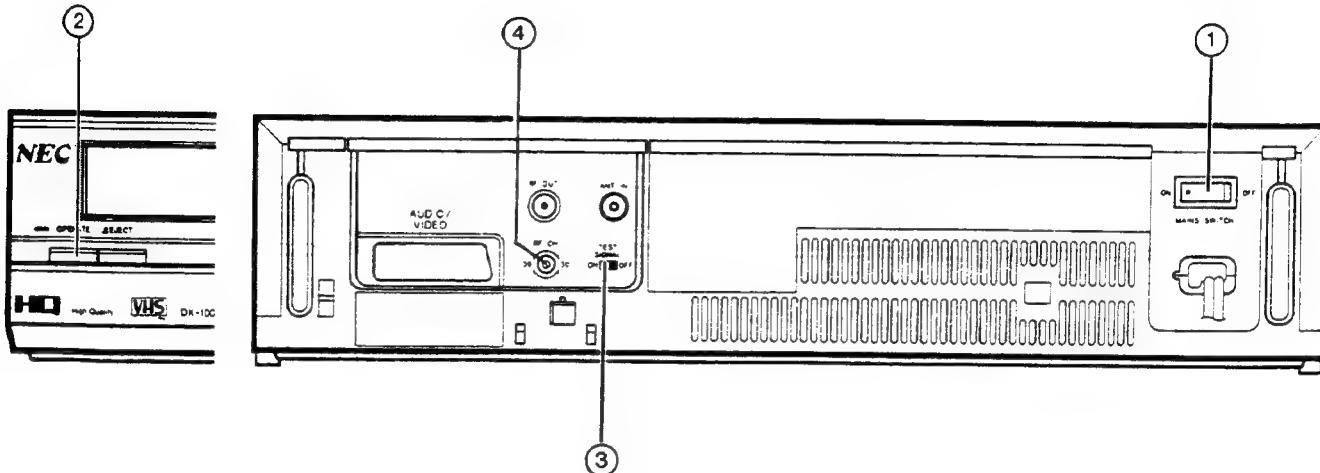
- Previously, when you were using only the TV, broadcast signals went to the TV directly from the antenna. Now, after you have connected the VCR to the TV, broadcast signals enter the VCR directly from the antenna and go to the TV through the VCR.
- In order to transmit entering broadcast signals to the TV, an antenna circuit is built into the VCR. This antenna circuit must be on as long as you are viewing TV programmes even though you are not using the VCR. If the MAINS switch is set to OFF, the VCR's antenna circuit is also switched off. In this state, the connected TV cannot properly receive off-air TV programmes and a good picture is not obtained. Therefore, normally, keep the MAINS switch set to ON.

VIDEO CHANNEL SETTING

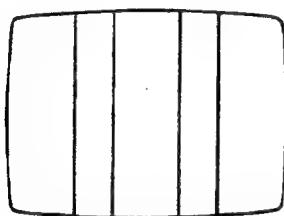
Resetting the RF converter output channel

The built-in RF converter permits playback of video and audio recordings through a TV. The signals from the RF converter are viewed through a vacant channel not used for TV broadcasting in your viewing area.

The converter channel of all units is set to UHF channel 36 prior to shipment. Setting your TV receiver to UHF channel 36 may provide video playback. However, to obtain the best possible reproduction on your TV receiver, accurate adjustment of the RF converter output channel is required.



1. Set the MAINS switch ① to ON and press the OPERATE button ② on the front panel to turn on the VCR. Turn on the TV.
2. Set the TEST SIGNAL switch ③ to ON.
3. Adjust the TV in the vicinity of UHF channel 36 until you bring in the two white signal bars on the screen as illustrated. This setting is now the VIDEO CHANNEL of the TV to which the VCR is connected.
4. Set the TEST SIGNAL switch ③ to OFF.



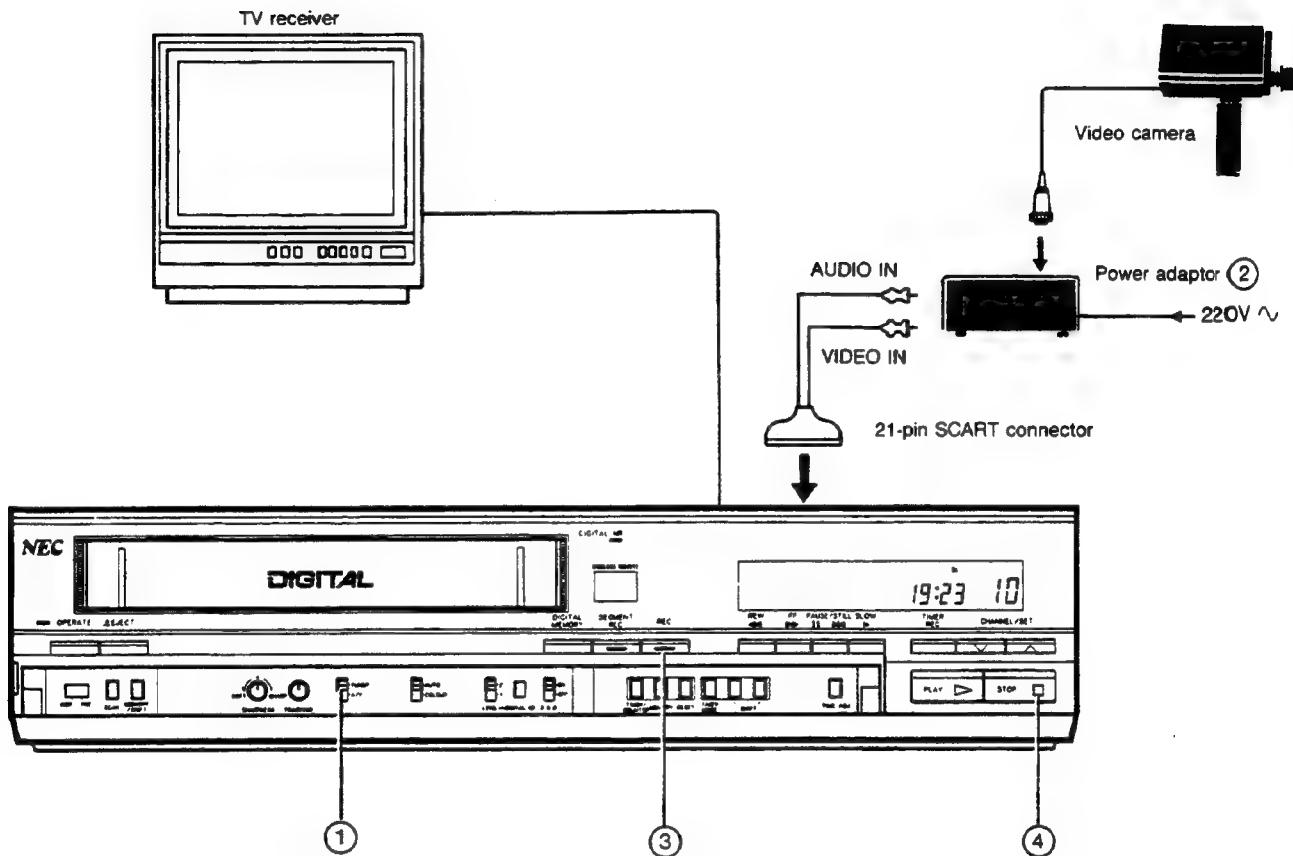
Notes:

- When you adjust the TV to channel 36 for video playback, if some interference noise is seen on the screen because of broadcasts on neighbouring channels or if preset broadcasts are affected in terms of picture quality, it is necessary to adjust the RF converter output more accurately the RF converter output.
- For this purpose, insert a screwdriver into the hole on the rear of the VCR and re-adjust the RF converter frequency adjustment screw ④ in minute steps. Then tune the TV once again until a clear picture is obtained. This adjustment requires extreme precision and must be done with the utmost care. We recommend that you consult your NEC dealer for making this adjustment.
- Be sure to set the TEST SIGNAL switch ③ to OFF after VIDEO CHANNEL tuning has been completed.
- If a prerecorded VHS cassette is available, TV adjustment for VIDEO CHANNEL setting is also possible using it to obtain a playback picture. Insert the cassette and operate the VCR for playing back the cassette. Then tune the TV to obtain clear picture and sound while monitoring the playback picture on the TV screen.
- If the TV is not provided with an AFC (Automatic Frequency Control) circuit, perform fine tuning of the TV receiver when you are actually viewing playback of video cassettes.

CAMERA RECORDING

Preparation

- Connect a video camera according to the illustration below.
- Insert a video cassette with the safety tab intact.
- Turn the TV on and adjust the channel to the video channel.



1. Set the input select switch ① to A/V.
2. Turn the power adaptor on ② and make adjustments on the video camera. (Please read the owner's operation manual of the camera.)
3. Press the REC button ③.
4. Press the STOP button ④ to stop recording.

- When reverting back to recording the TV programme, set the input select switch ① to TUNER.

BEFORE REQUESTING SERVICE

Before requesting service, check the following items. It can save you time and money.

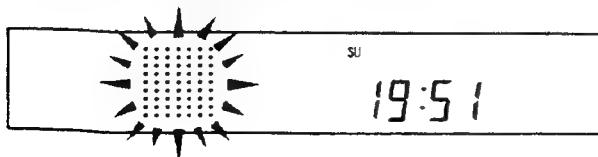
PROBLEM	CHECK	CORRECTION
No Power	AC cord plugged in? MAINS switch on? Timer recording set?	Plug in AC cord. Turn on MAINS switch. Set timer recording off.
Video Cassette cannot be inserted.	A video cassette already in? A video cassette inserted correctly?	Replace it. ● Insert the video cassette with the window side up and the safety tab facing you.
TV Programmes cannot be recorded.	Connection between VCR and antenna correct? Receiving Channel of VCR tuned correctly? Safety tab broken? Input select switch position	Fix connections Adjust to desired channel. If broken, fix adhesive tape over the hole. Set to TUNER.
Timer recording cannot be performed.	Recording start/stop time set correctly? TIMER REC button on?	Set correct times. Press TIMER REC button on. ● In the event of a power interruption, the timer will lose its preset time memory and timer recording will not be performed.
No playback picture	TV tuned to VCR's RF output channel?	Tune TV to VCR's RF output channel (30 to 39).
Playback picture is noisy or contains streaks.	TRACKING in correct position?	Adjust TRACKING control.
Top of the playback picture waves back and forth excessively.		Adjust horizontal hold control on TV.

If A Power Failure Occurs ...

- There are two cases; (a): if a operate failure continues for less than approx. 10 minutes, the display disappears but the clock continues operation. When operate resumes, the correct current time will reappear in the display. The contents of timer programming remains in effect. Also: (b): If a operate failure continues for longer than 10 minutes, the display will return to "0:00", "TH" (Thursday), and blink off and on when power returns. In this case, reset the clock and timer programming again, referring to pages 14 and 21 to 24.

When Tape Movement Stops Automatically ...

- If trouble occurs during tape movement or to the mechanism inside the VCR, a safety device works to stop the operation of the VCR automatically. This prevents damage to the VCR and the tape. If this occurs the ALARM indicator will be shown in the display and the power will be turned off automatically.



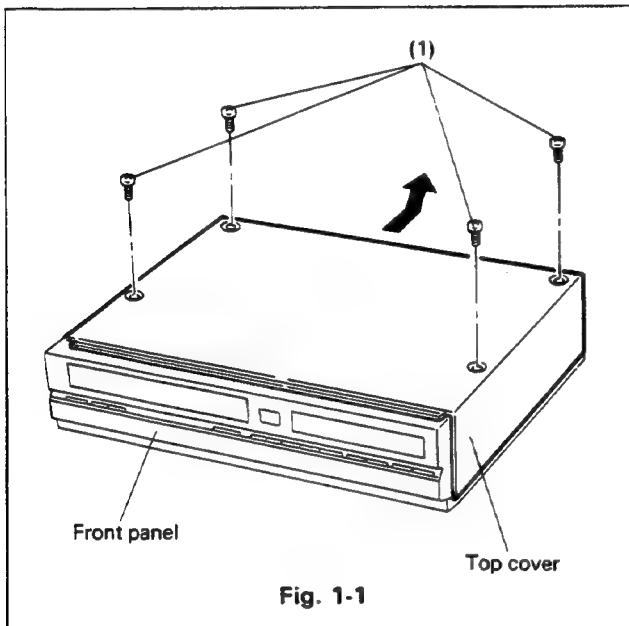
(STOP indicator is flashing.)

SECTION 2 DISASSEMBLY

1. REMOVING THE CASE

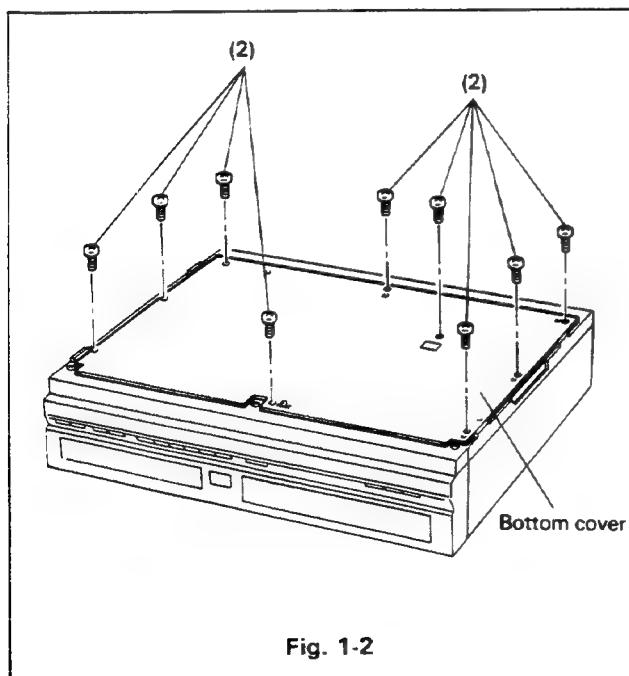
1-1. TOP COVER (Figure 1-1)

- (1) Remove four screws (1) on the top cover.
- (2) Lift the rear of the top cover to release it in the direction of the arrow from the front panel.



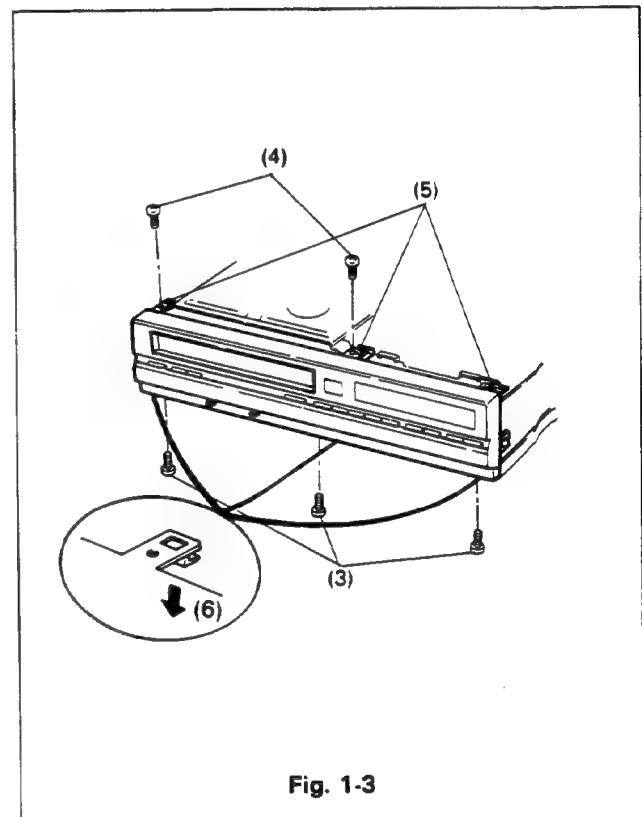
1-2. BOTTOM COVER (Figure 1-2)

- (1) Remove nine screws (2) on the bottom cover.



1-3. FRONT PANEL (Figure 1-3)

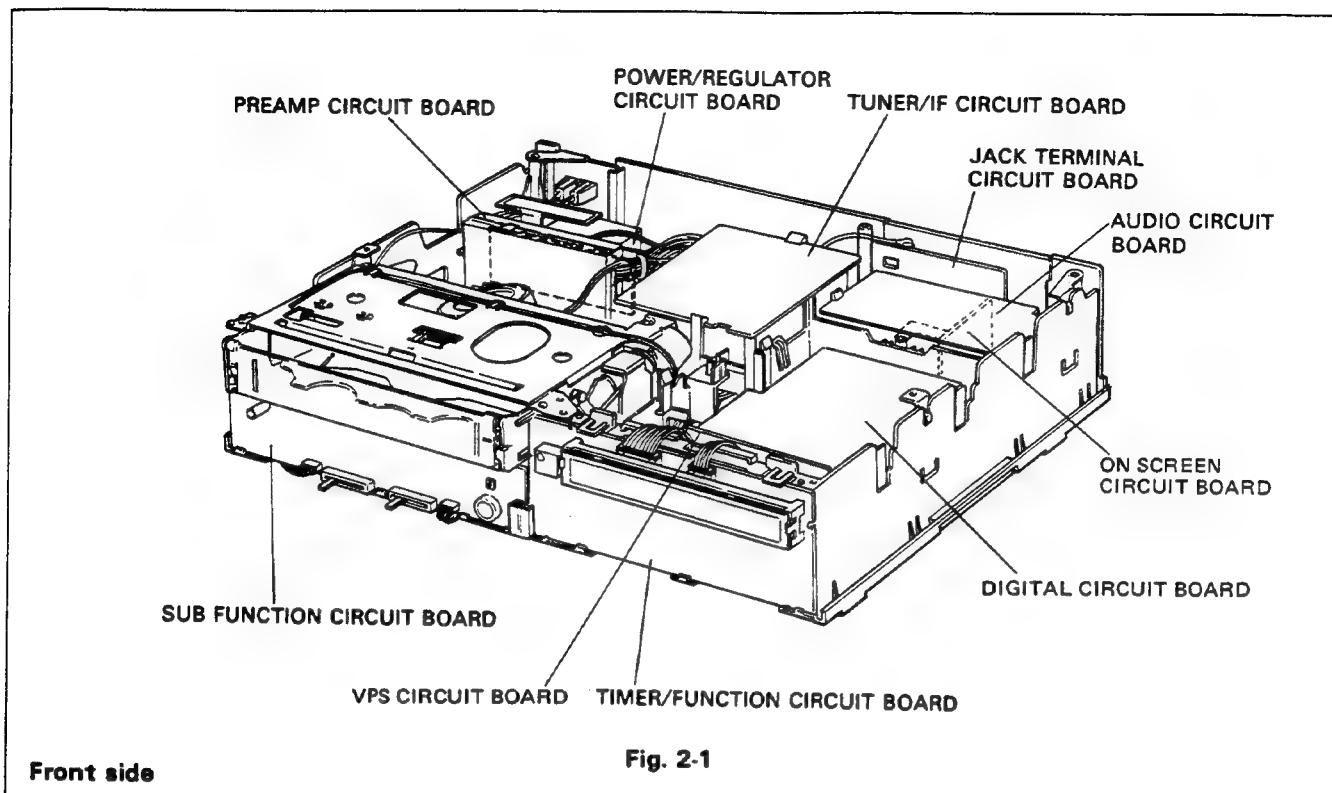
- (1) Remove the top cover. (Refer to Item 1-1.)
- (2) Remove three screws (3) on the bottom of the front panel.
- (3) Remove two screws (4) on the top of the front panel.
- (4) Release tabs (5).
- (5) Release tabs (6), and tilt the front panel forward to remove.



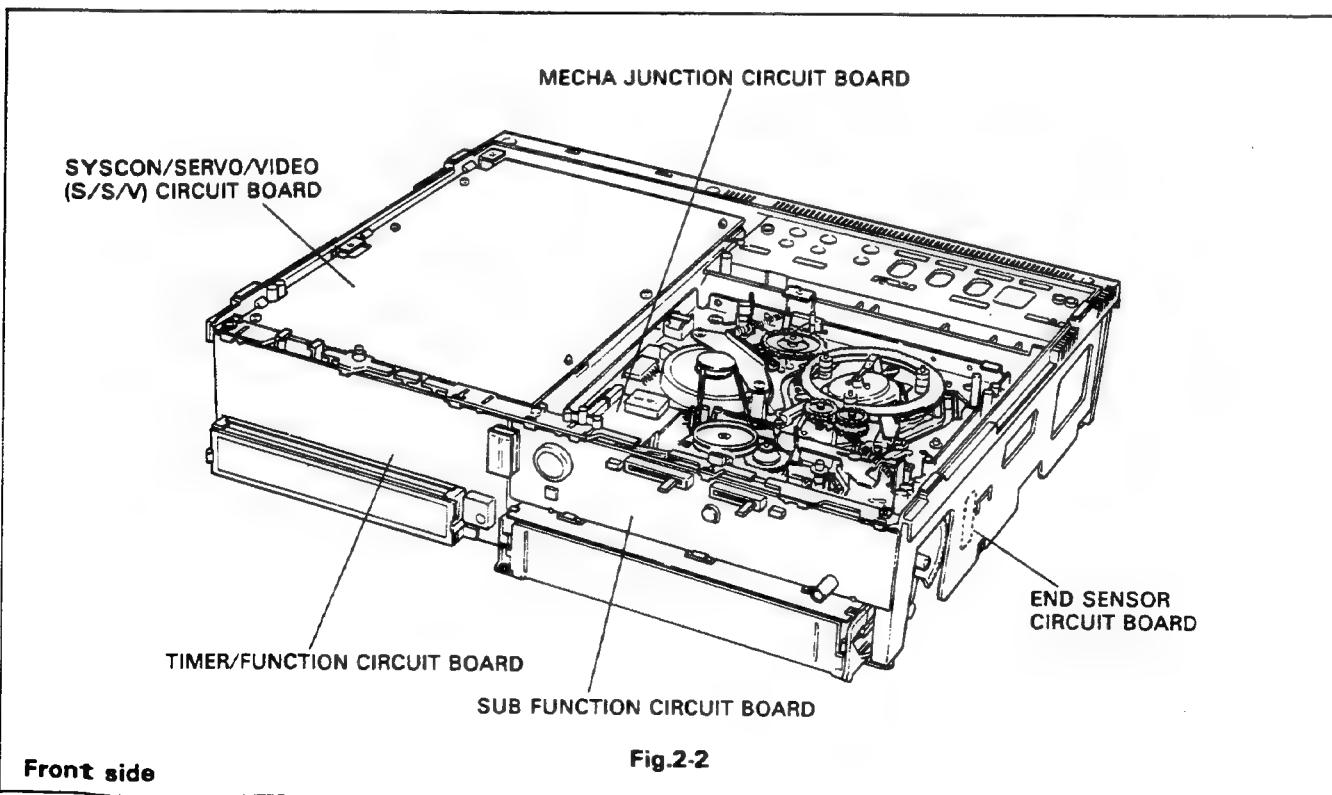
Note: After releasing tabs (6), be sure to handle the tab set very carefully; Otherwise, the released tabs may return to their original locked positions.

2. CIRCUIT BOARD LOCATIONS

2-1. TOP VIEW



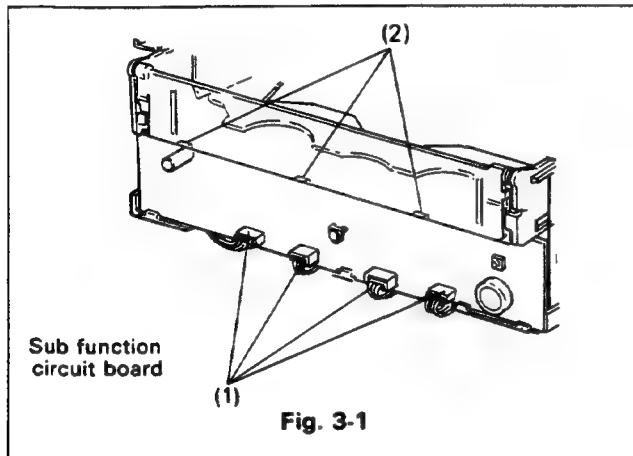
2-2. BOTTOM VIEW



3. REMOVING THE CIRCUIT BOARDS

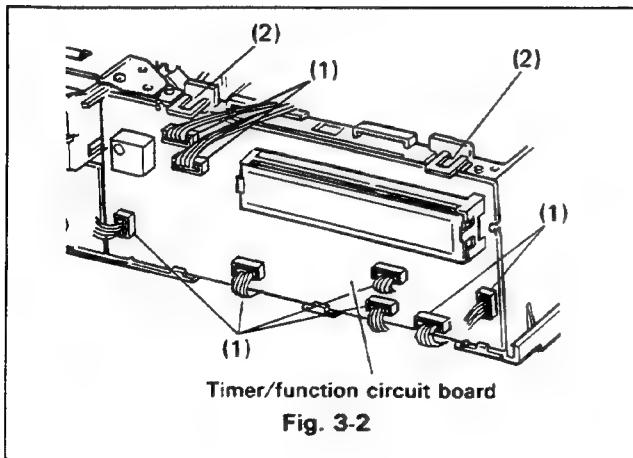
3-1. SUB FUNCTION CIRCUIT BOARD (Figure 3-1)

- (1) Remove the top cover and front panel. (Refer to Items 1-1 and 1-3.)
- (2) Disconnect five wire connectors (1) from the circuit board.
- (3) Release three tabs (2) on the top of the circuit board in the direction of the arrow, and lift the circuit board to remove.



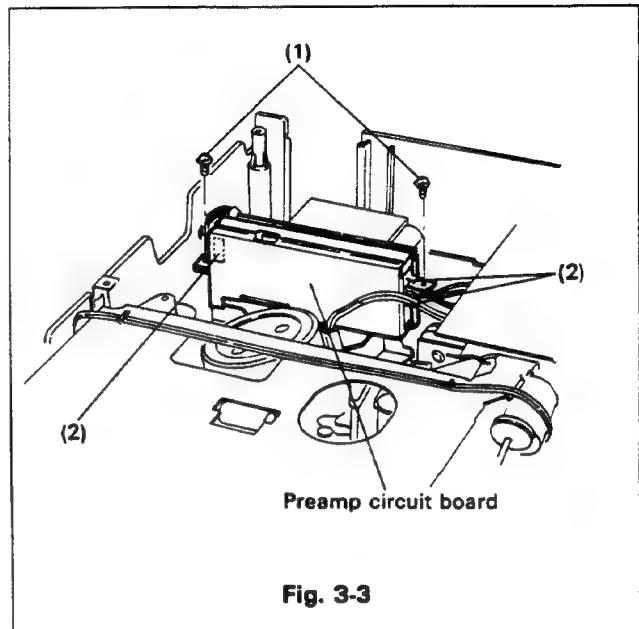
3-2. TIMER/FUNCTION CIRCUIT BOARD (Figure 3-2)

- (1) Remove the top cover and front panel. (Refer to Items 1-1 and 1-3.)
- (2) Disconnect eight wire connectors (1) from the circuit board.
- (3) Release two tabs (2), and lift the circuit board to remove.



3-3. PREAMP CIRCUIT BOARD (Figure 3-3)

- (1) Remove the top cover. (Refer to Item 1-1.)
- (2) Remove two screws (1).
- (3) Disconnect three wire connectors (2) from the preamp circuit board.



Note: Be very careful not to damage the drum head circuit board when removing the preamp circuit board.

3-4. TUNER/IF CIRCUIT BOARD (Figure 3-4)

- (1) Remove the top cover. (Refer to Item 1-1.)
- (2) Remove three screws (1) from the tuner/IF circuit board.
- (3) Release two tabs (2).
- (4) Lift and tilt the tuner/IF circuit board toward the rear panel.
- (5) Disconnect the 75-ohm VHF cable (3).
- (6) Disconnect three wire connectors (4).

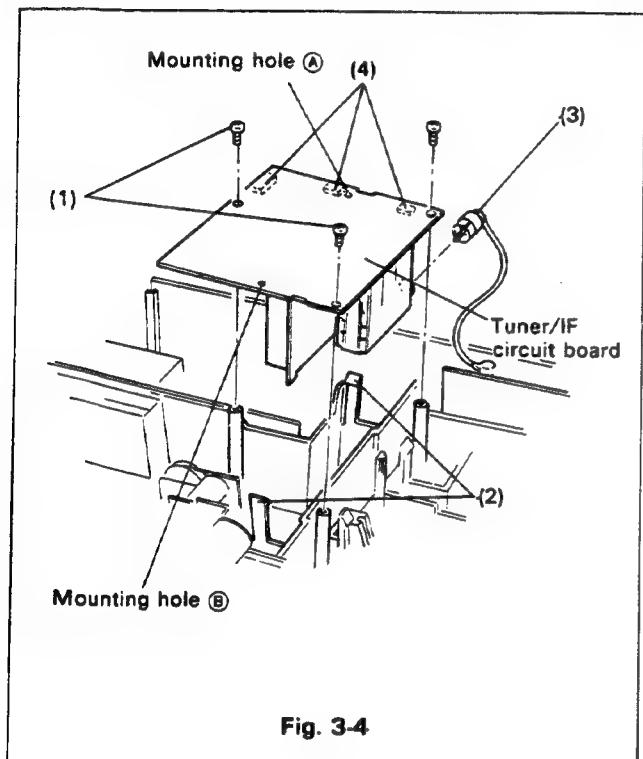


Fig. 3-4

Note: To install the circuit board, align the circuit board-mounting pins with mounting holes (A) and (B).

3-5. POWER/REGULATOR CIRCUIT BOARD (Figure 3-5)

- (1) Remove the top cover. (Refer to Item 1-1.)
- (2) Remove the bottom cover. (Refer to Item 1-2.)
- (3) Remove the tuner/IF circuit board. (Refer to Item 3-4.)
- (4) Disconnect four wire connectors (1) from the power/regulator circuit board.
- (5) Remove four screws (2).
- (6) Lift the power/regulator unit together with the AC outlet plate to remove.
- (7) Remove four screws (3) to release the power/regulator circuit board from the base.

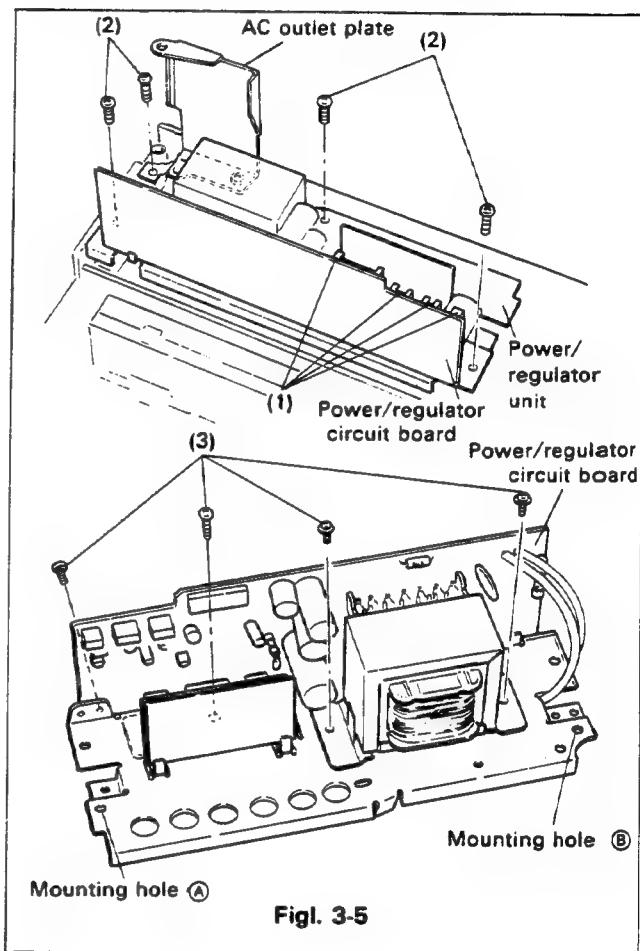


Fig. 3-5

Note: To install the power/regulator unit, align the mounting pins with mounting holes (A) and (B).

3-6. JACK TERMINAL CIRCUIT BOARD (Figure 3-6)

- (1) Remove the top cover. (Refer to Item 1-1.)
- (2) Disconnect the 75-ohm cable (1).
- (3) Disconnect wire connector (2).
- (4) Pull the terminal plate up and remove the jack terminal circuit board.
- (5) Disconnect wire connector (3).

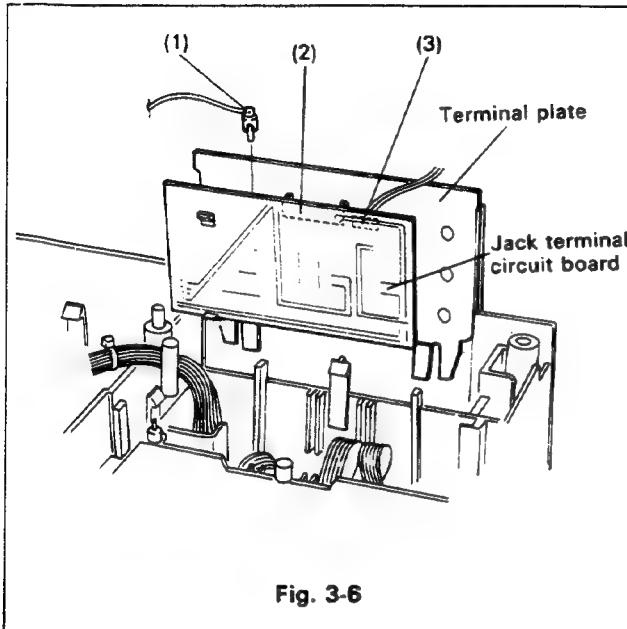


Fig. 3-6

3-7. AUDIO CIRCUIT BOARD (Figure 3-7-1)

- (1) Remove the top cover. (Refer to Item 1-1.)
- (2) Disconnect four wire connectors (1) from the audio circuit board.
- (3) Release three tabs (2).
- (4) Release the circuit board from two slide hinges (3).

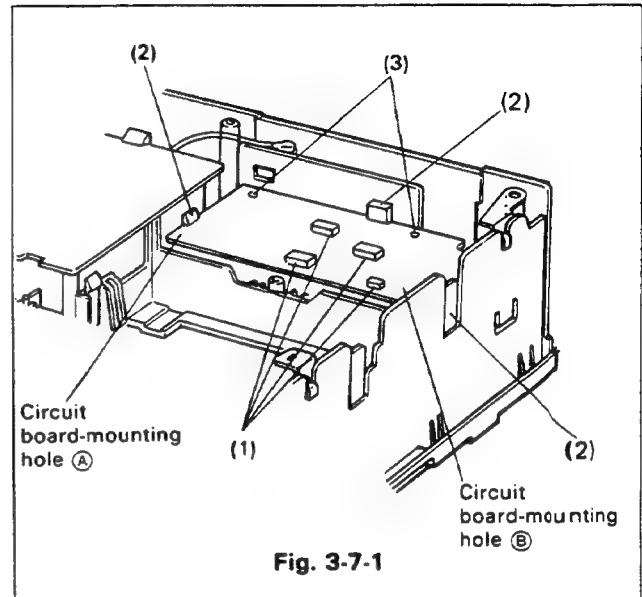


Fig. 3-7-1

Notes:

1. The jack terminal circuit board is united with the terminal plate.
2. To install the jack terminal unit, fit the terminal plate into the mounting position until it clicks in the locked position.

To install the circuit board, align the circuit board-mounting pins with mounting holes Ⓐ and Ⓑ.

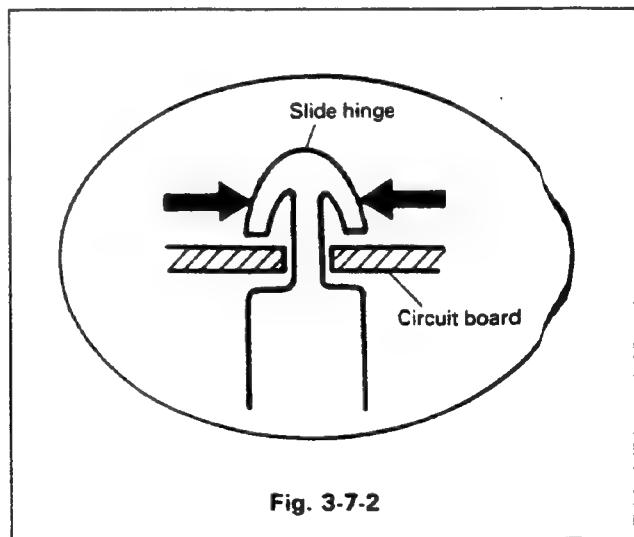
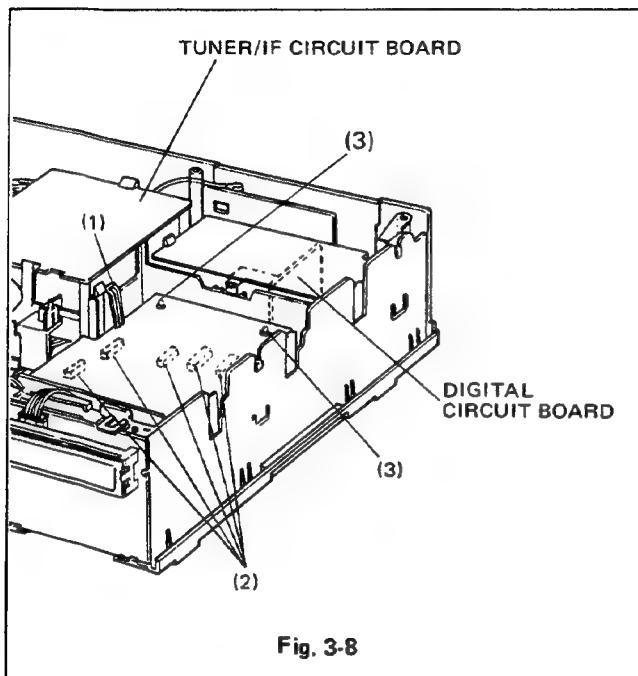


Fig. 3-7-2

Note: When removing the circuit board from each slide hinge, use pliers to squeeze these hinges in the directions of the arrows shown in the figure to release.

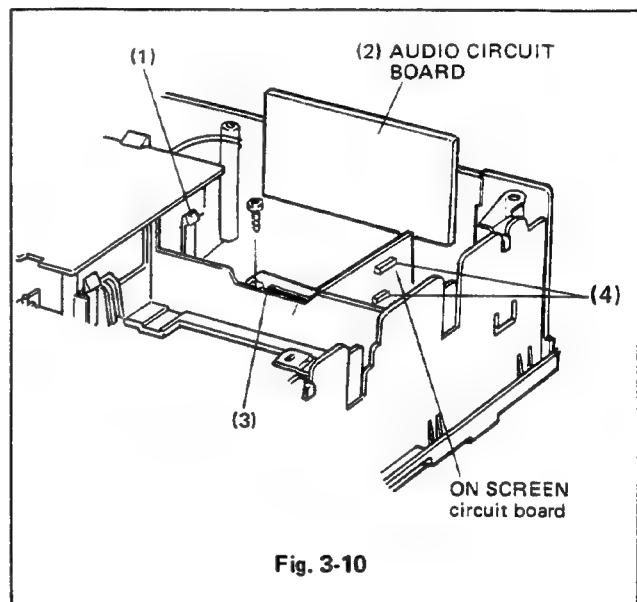
3-8. DIGITAL CIRCUIT BOARD (Figure 3-8)

- (1) Remove the top cover. (Refer to Item 1-1.)
- (2) Release five tabs (1).
- (3) Disconnect five wire connectors (2) from the digital circuit board.
- (4) Release the circuit board from two hinges (3).



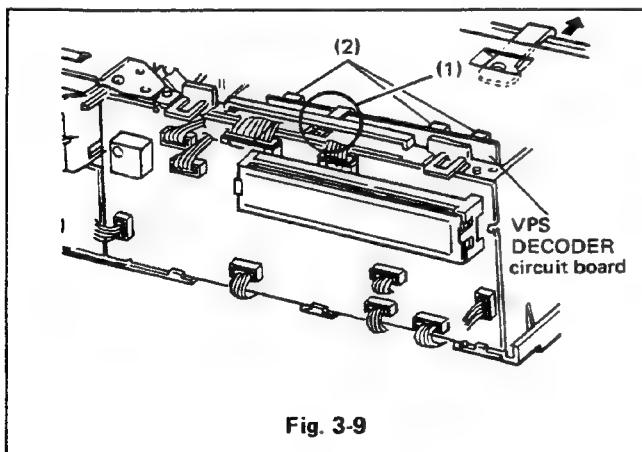
3-10. ON SCREEN CIRCUIT BOARD (Figure 3-10)

- (1) Remove the top cover. (Refer to Item 1-1.)
- (2) Release the three tabs (1) on the audio circuit board.
- (3) Raise slide hinge (2) for the audio circuit board until the board is upright.
- (4) Remove the screw from clamp (3) for the on-screen circuit board.
- (5) Disconnect two wire connectors (4).



3-9. VPS DECODER CIRCUIT BOARD (Figure 3-9)

- (1) Remove the top cover. (Refer to Item H.)
- (2) Remove pwb bracket (1) in the arrow direction.
- (3) Disconnect the three connectors (2) on the VPS decoder circuit board.



3-11. S/S/V CIRCUIT BOARD (Figure 3-11-1)

- (1) Remove the top cover. (Refer to Item 1-1.)
- (2) Remove the bottom cover. (Refer to Item 1-2.)
- (3) Perform steps (2) and (3) in the Item 3-7, and raise the audio circuit board toward the rear panel.
- (4) Disconnect seventeen wire connectors (1) from the S/S/V circuit board from inside the VCR.
- (5) Remove five screws (2) from the S/S/V circuit board.
- (6) Release three tabs (3).
- (7) Release the circuit board from the two slide hinges (4).

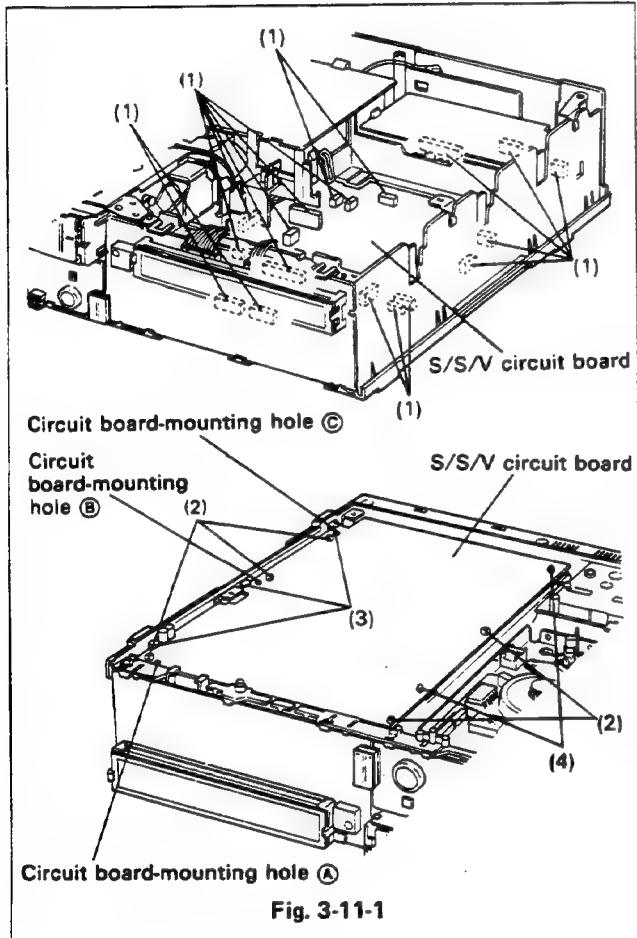


Fig. 3-11-1

To install the circuit board, align the circuit board-mounting pins with mounting holes A, B and C.

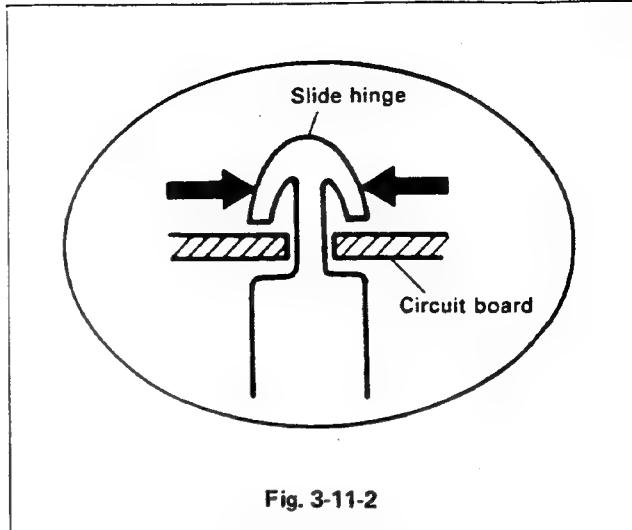


Fig. 3-11-2

Note: When removing the circuit board from each slide hinge, use pliers to squeeze these hinges in the directions of the arrows shown in the figure to release.

4. REMOVING THE CASSETTE MECHANISM

4-1. REMOVING THE CASSETTE HOUSING ASSEMBLY (Figures 4-1-1, 4-1-2)

- (1) Remove the top cover and front panel. (Refer to Items 1-1 and 1-3.)
- (2) Remove two screws (1). Pull up the rear part of the cassette housing assembly and pull backwards 4.5 mm carefully to release the claw of the front side of the cassette housing assembly from the chassis. Then carefully pull it out upwards.
- (3) Disconnect connector (2).
- (4) To remove the cassette loading circuit board, release four tabs (3).

Note: The removed screws should be used again to reinstall the cassette housing assembly. Never use screws other than the ones originally removed.

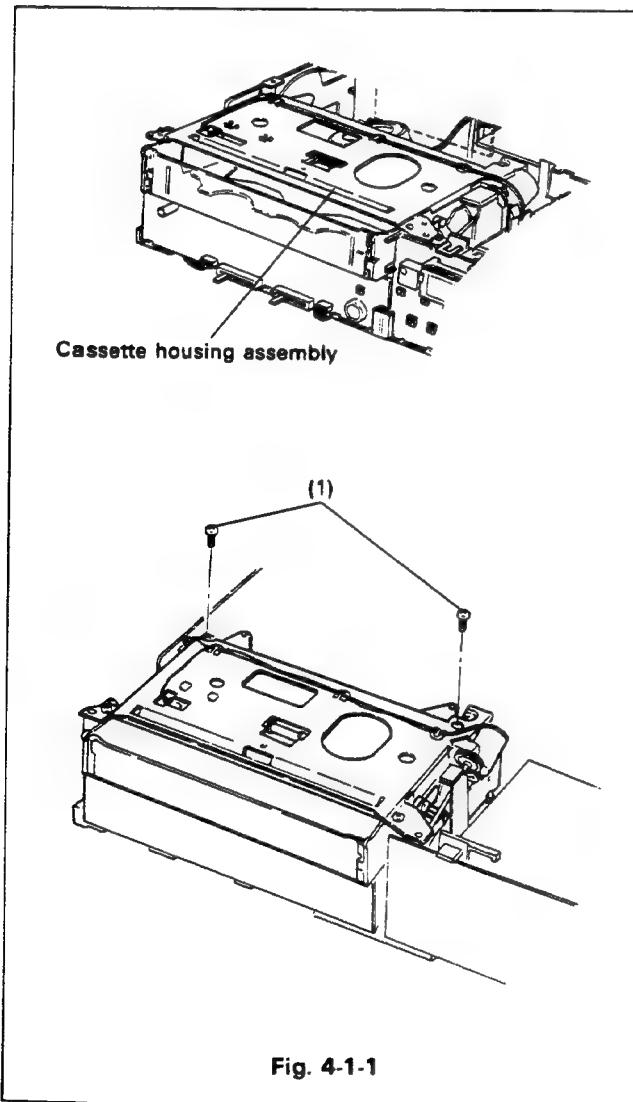


Fig. 4-1-1

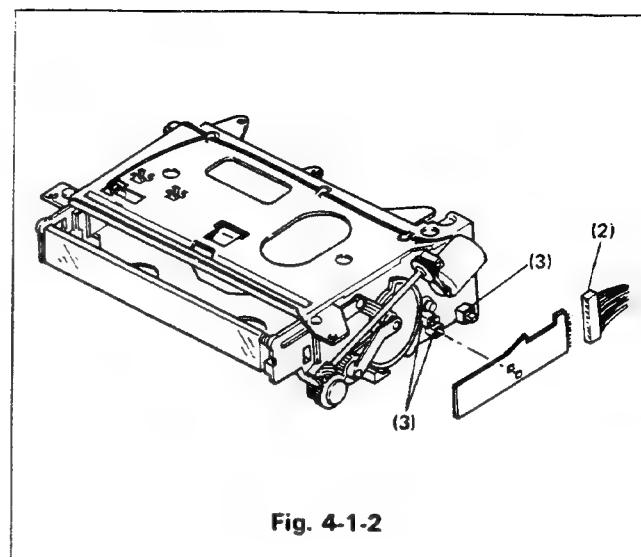


Fig. 4-1-2

4-2. FRONT COVER (Figure 4-2)

- (1) Push the front cover into the cassette housing.
- (2) Push the side panel (L) outward, and remove the front cover, together with the front cover spring.

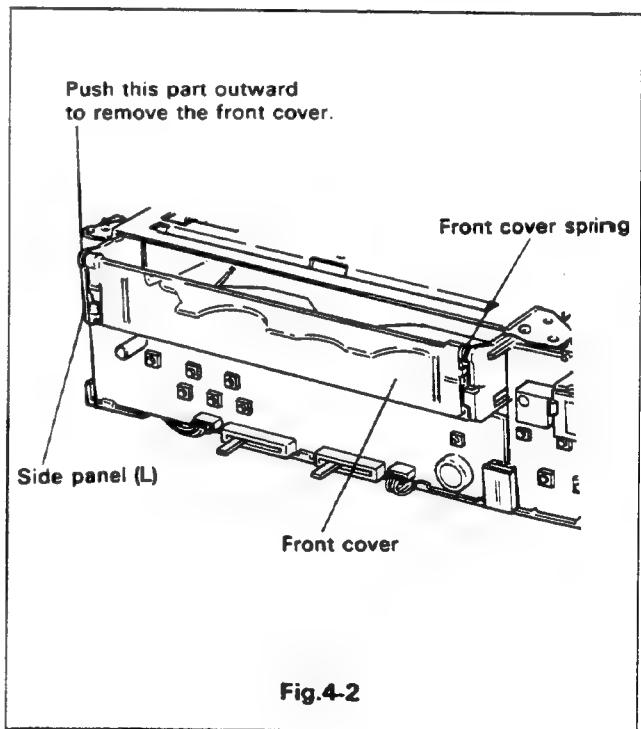


Fig. 4-2

4-3. MODE SENSOR CIRCUIT BOARD (Figure 4-3)

- (1) Remove the bottom cover. (Refer to Item 1-2.)
- (2) Remove screw (1).
- (3) Disconnect wire connector (2) to remove the mode sensor circuit board.

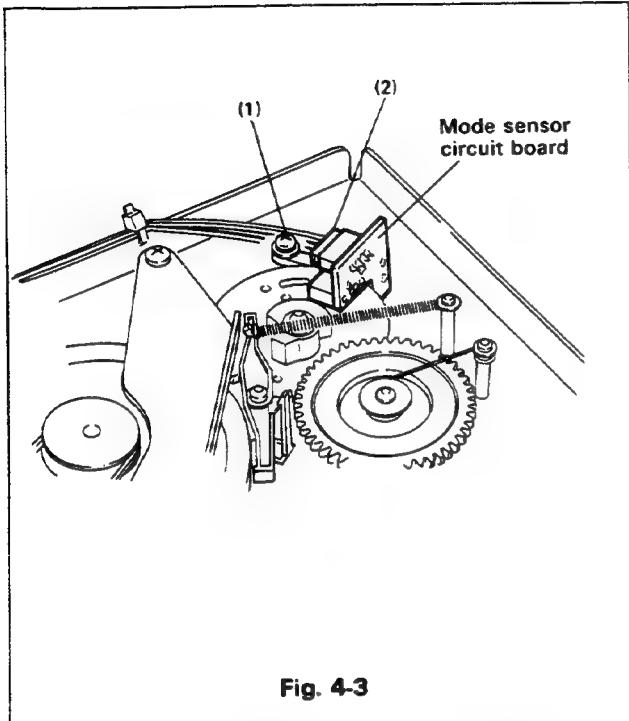


Fig. 4-3

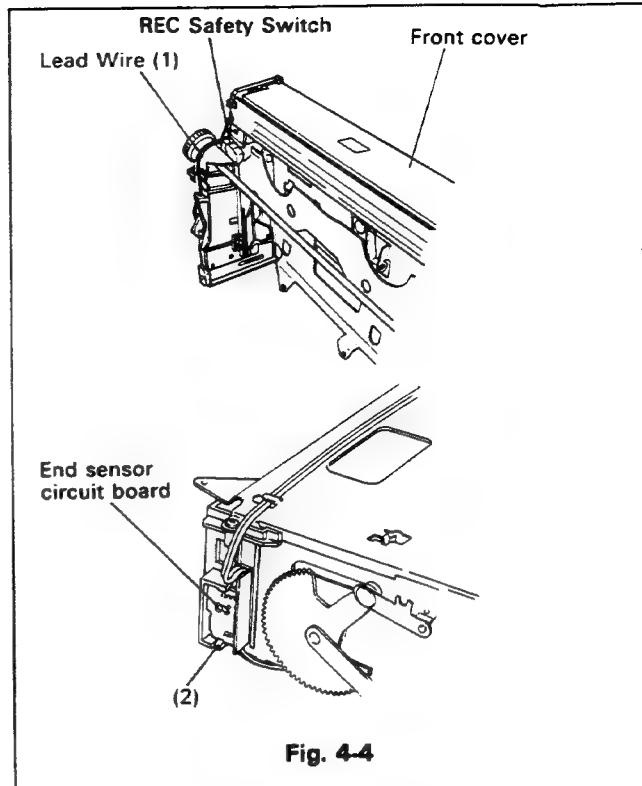


Fig. 4-4

4-5. MECHA JUNCTION CIRCUIT BOARD (Figure 4-5)

- (1) Remove the bottom cover. (Refer to Item 1-2.)
- (2) Disconnect flat cable (1).
- (3) Disconnect connector (2) and junction (3).
- (4) Release tab (4) and lift the circuit board a little to remove.

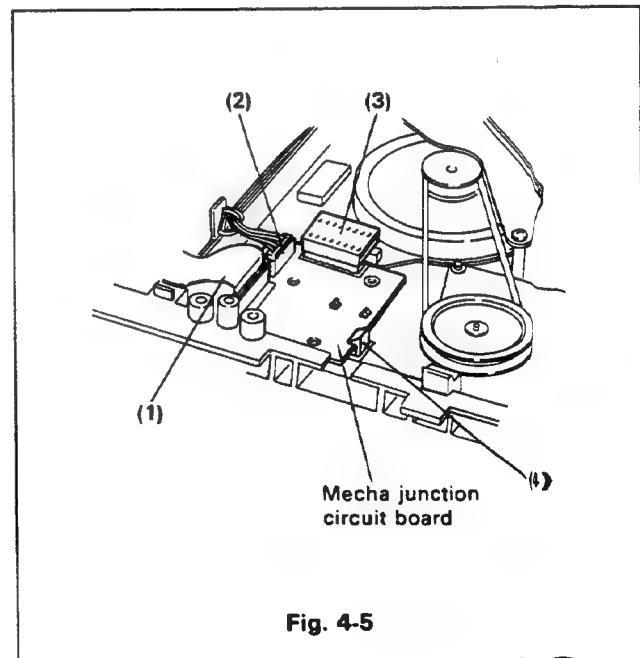


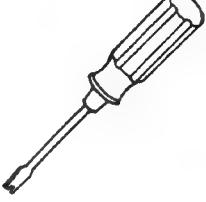
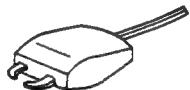
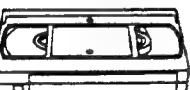
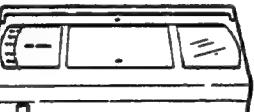
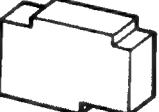
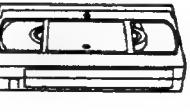
Fig. 4-5

SECTION 3

ADJUSTMENT

1. MECHANICAL ADJUSTMENT

1-1. SERVICING JIGS AND TOOLS

J-1 Checking mirror For tape flow check and adjustment procedures  16950871	J-2 Hexagonal driver For guide roller screw  16951281	J-3 Adjustment driver For guide roller  16951291	J-4 Adjustment driver For tapered pin of ACE head  16951301
J-5 Box driver For ACE head, guide pole and reverse pin  16951311	J-6 Alignment tape (MH-2) Overall adjusting of picture quality and tracking MH-2 79V20196 	J-7 Cleaning liquid (isopropyl alcohol) cleaning cloth for cleaning 	J-8 Head demagnetizer demagnetizing audio heads 
J-9 Cleaning cassette tape For cleaning video heads  NOTE*	J-10 ● Torque meter (600g/cm) Ass'y 79V20199 ● Torque meter 79V20200 (600g/cm) ● Torque meter adaptor 79V21508 (Substitute 79V20201) 	J-11 Back tension cassette gauge 79V20202 	J-12 Height Gauge AM-2 Jig  16951431
J-13 Master Plane B Jig  16951381	J-14 Height Gauge BM-2 Jig  16951441	J-15 Cassette tape (E-120) For checking tape path  NOTE*	

Note: This item not available from parts dept.

Fig. 1-1

1-2. MECHANISM ASSEMBLY

1-2-1 Removing the mechanism assembly

(Figure 1-2)

- (1) Remove the top cover and front panel. (Refer to Items 1-1 and 1-3.)
- (2) Remove the tuner/IF circuit board. (Refer to Item 3-4.)
- (3) Remove the preamp circuit board. (Refer to Item 3-3.)
- (4) Remove the cassette housing assembly. (Refer to Item 4-1.)

Note: The removed screws should be used again to reinstall the cassette housing assembly. Never use screws other than removed ones.

- (5) Disconnect wire connector and drum heater (yellow) of the rotary drum assembly.
- (6) Remove two screws of the lead wires with ground lug.
- (7) Disconnect two connectors from the ACE head assembly.
- (8) Disconnect connectors from the full erase head.
- (9) Disconnect the flat cable from the mecha junction circuit board.

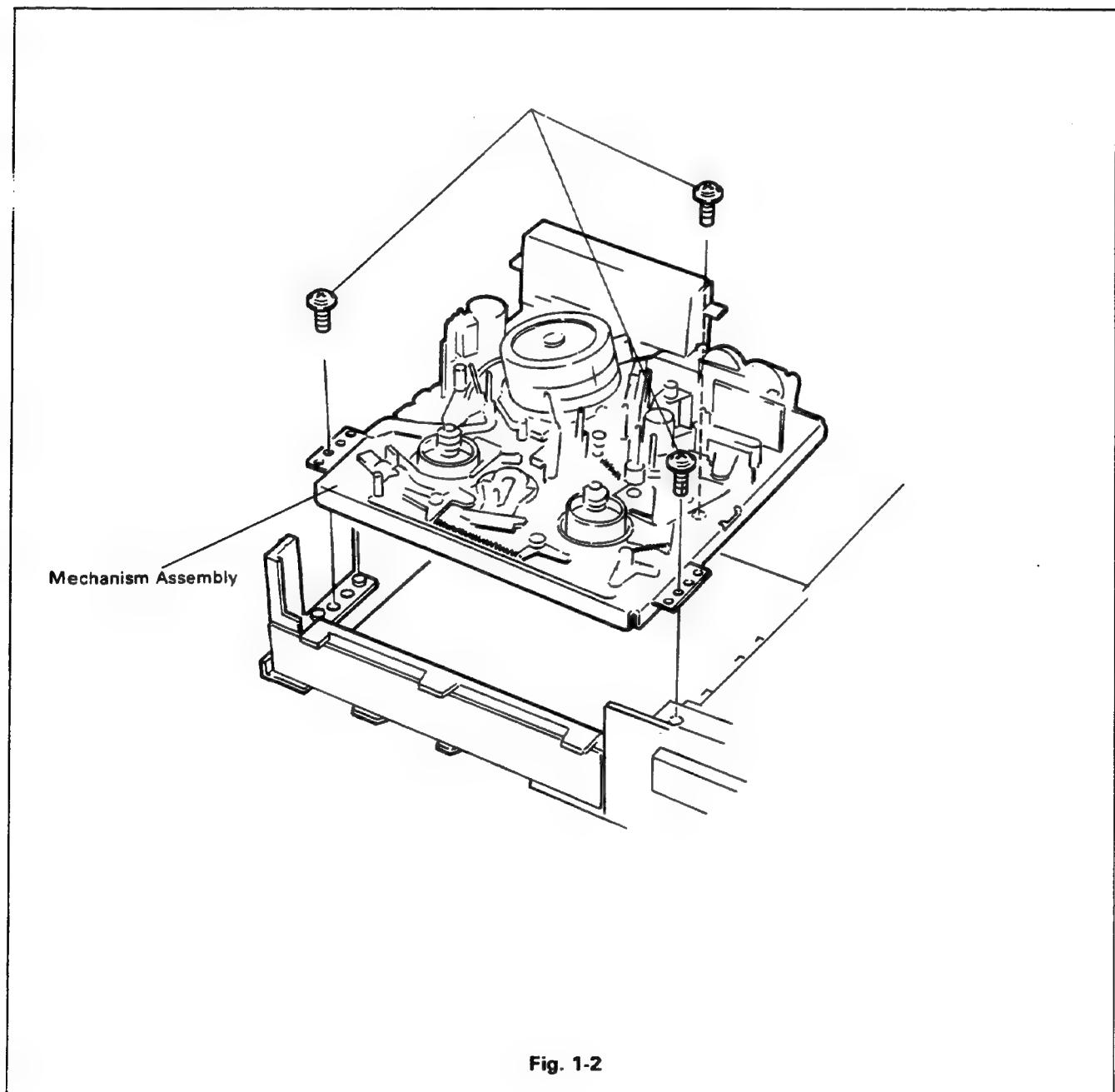
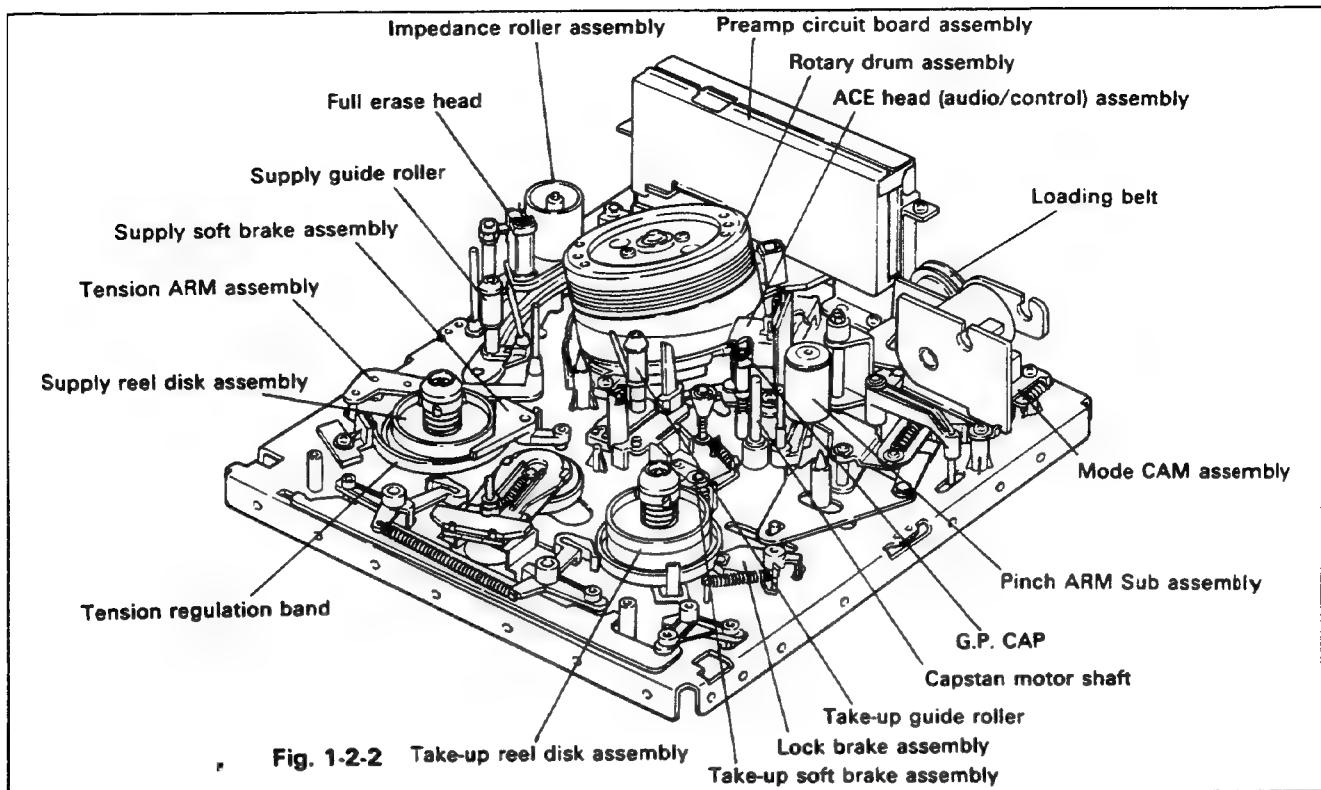


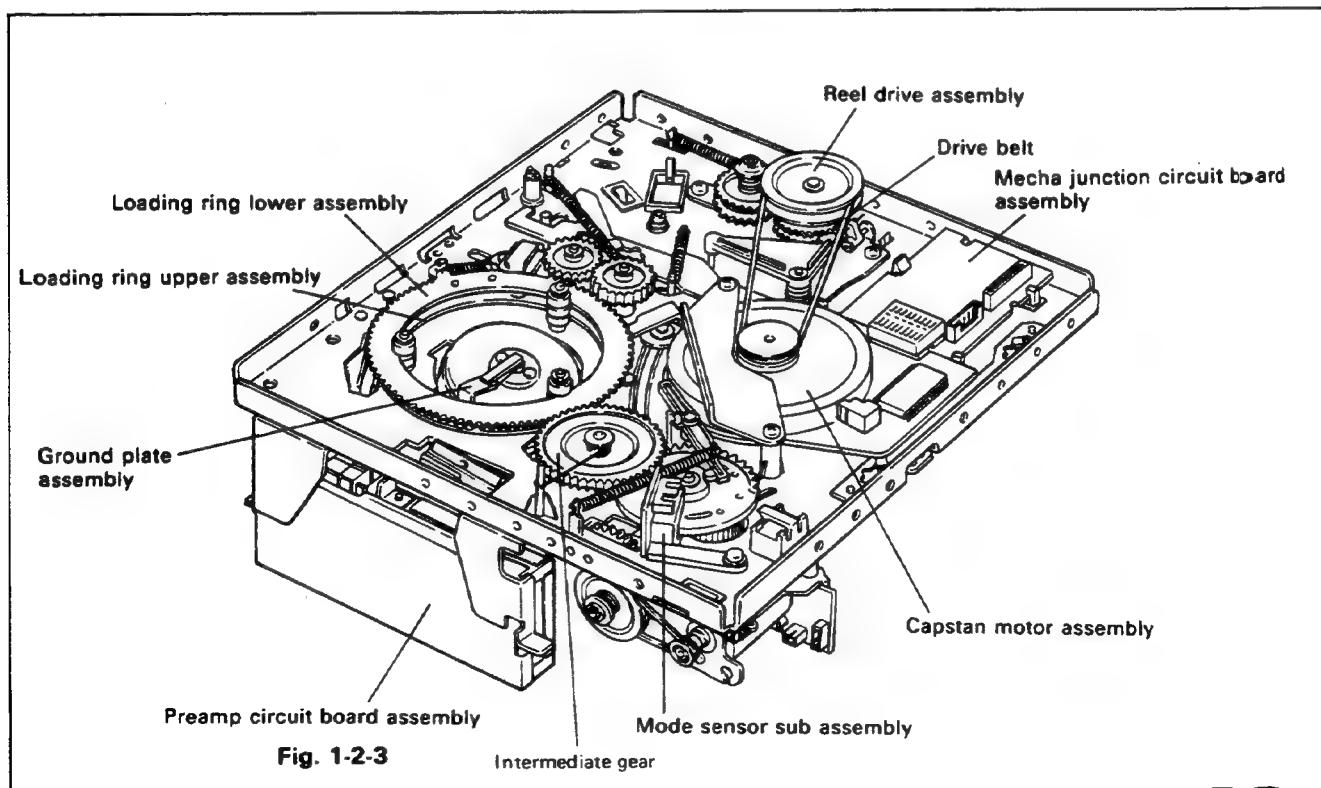
Fig. 1-2

1-2-2 Mechanism parts locations

Top view



Bottom view



1-3. BEFORE DISASSEMBLING PARTS ON THE CHASSIS (Figure 1-3)

Do not turn the adjusting screws shown below when removing adjacent parts.

- (1) Supply guide pole height adjusting nut.
- (2) Take-up/supply guide roller height adjusting screw.
- (3) ACE Head X value adjusting nut.
- (4) ACE Head tilt adjusting screw.
- (5) ACE Head height adjusting nut.
- (6) ACE Head azimuth adjusting screw.
- (7) Take-up guide pole height adjusting nut (cap per).
- (8) Tension band fixing screw.
- (9) Reverse pin height adjusting nut.
- (10) Slant pole adjusting screw.

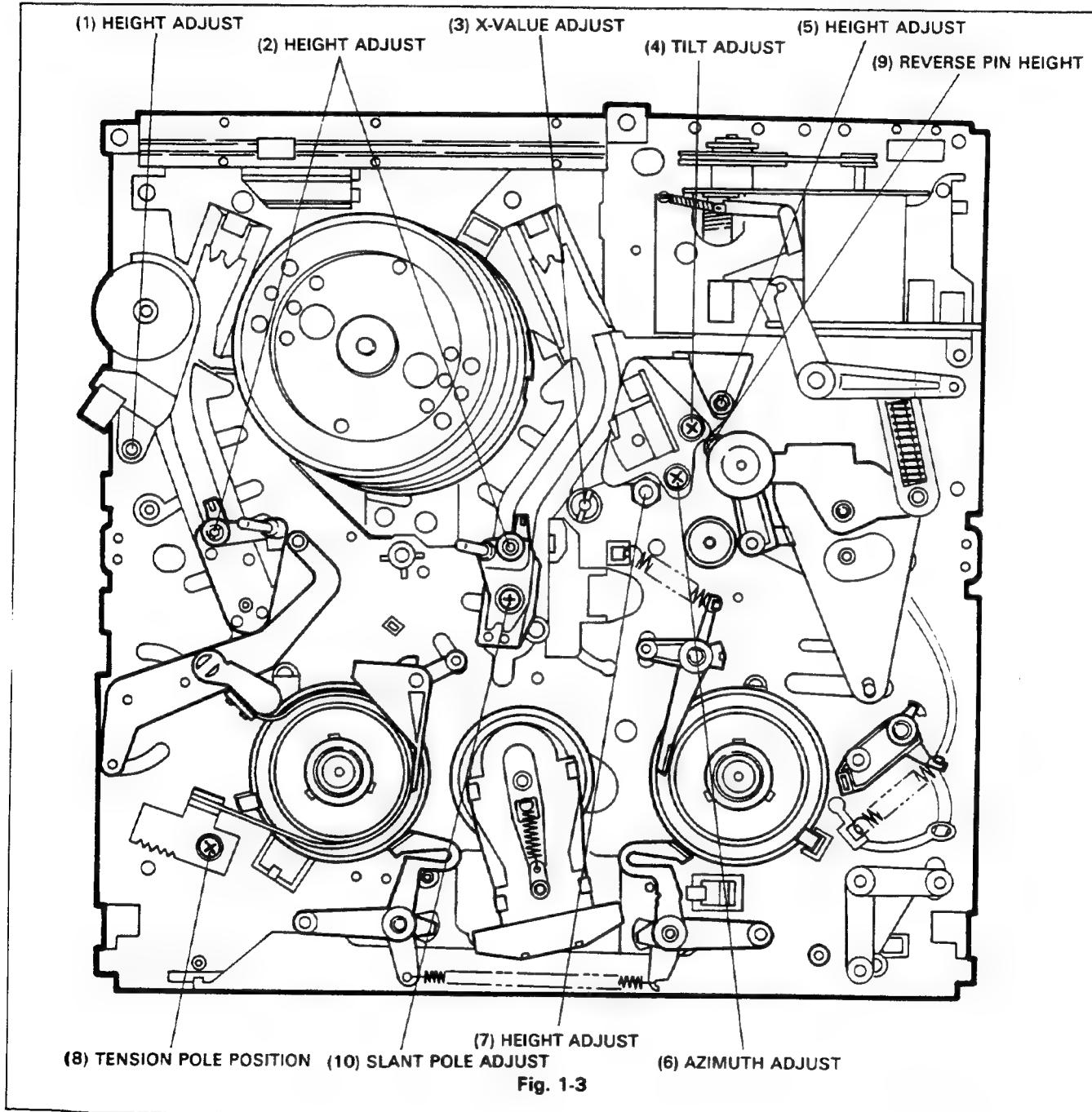


Fig. 1-3

Note: When replacing parts and removing the nylon nut for adjustment, be sure to use the removed nylon nut.

1-4. BEFORE ADJUSTING THE MECHANISM (Figure 1-4)

"Adjustment procedures" have been written as a guide to achieve proper operation after replacing the mechanism parts (when required by normal wear and tear or accidental damage).

Since the mechanism adjustment procedures are closely related to the adjustment of the electrical circuitry, and form the basis of the electrical circuitry adjustment procedures, carefully follow the mechanism procedures by observing the proper precautions.

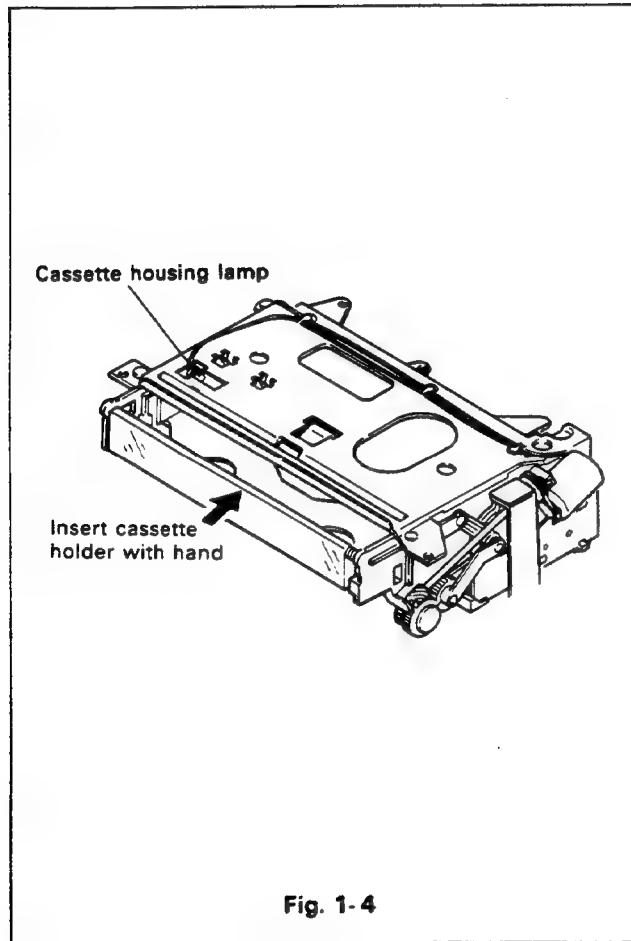


Fig. 1-4

1-5. SERVICING PRECAUTIONS (Figure 1-5)

- (1) Pay special attention to how and where the unit is placed when removing the exterior casing of the unit, and when servicing with the circuit boards removed.
- (2) Prevent the loss of screws by putting every removed screws into a container stored at one location.
- (3) Since the surface area of the left and right sides of the unit is small, take special precautions when working with the unit standing on its side so that it will not fall over.
- (3) When operating without using a cassette, short TP101 and TP102 on the S/S/V circuit board shown in Fig. 1-5 with a clip.

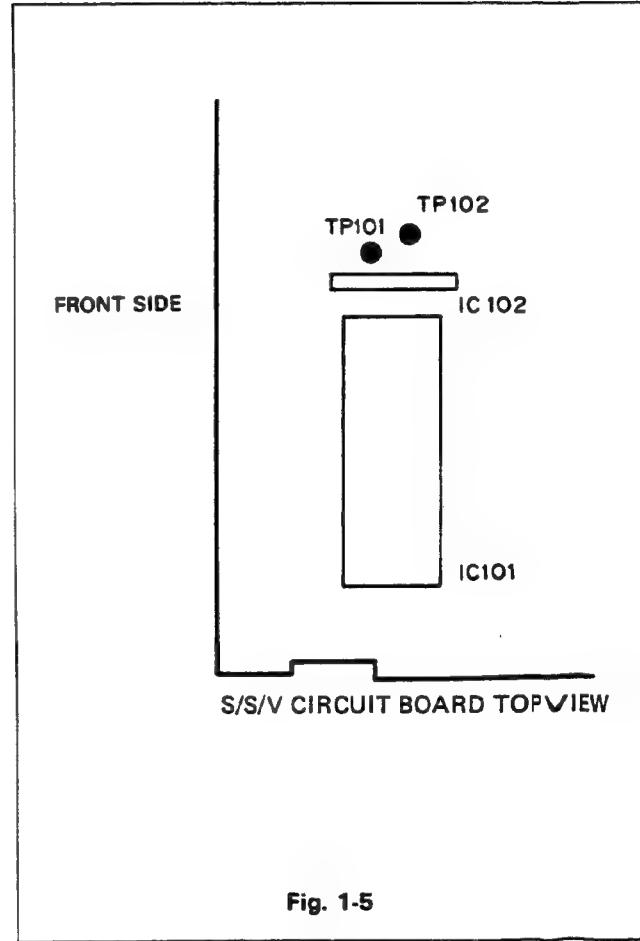


Fig. 1-5

1-6. REPLACEMENT OF UPPER ROTATING DRUM ASSEMBLY (Figure 1-6)

- 1) Remove the solder from the four lead wires that connect the video heads to the terminal transformer. (Perform this removal quickly so as not to damage the insulation of the lead wires.)
- 2) Remove two screws ①, then lift the rotating drum assembly upward and remove it.
- 3) Use alcohol (isopropyl) to clean the flange surface of the lower drum and the surface on the new rotating drum assembly that will come into contact with the flange. Position the rotating drum assembly so that the wire is aligned with the white marking on the shaded area of the terminal transformer, as shown in Fig. 1-6, then carefully slide it down into place.

Note:

- 1) Be sure not to touch the head tips, or strike and damage them.
- 2) If the rotating drum assembly should become hooked on some obstruction before it has been slid completely into place, do not attempt to force it. Remove it and try again.

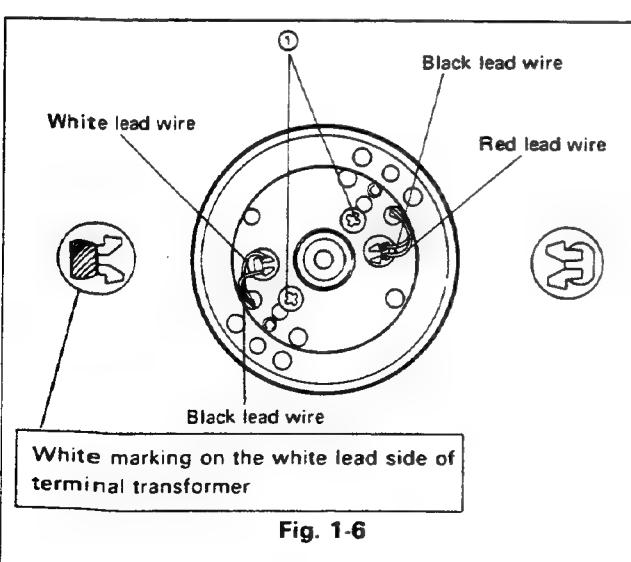
- 4) Tighten two screws ① alternately, then solder the four lead wires to their correct positions on the terminal transformer, and make sure that all connections are solid and secure.

- 5) After the rotating drum assembly has been replaced, be sure to carry out the following checks and adjustments.

1) Control head phase adjustment (refer to Section 3-4)

2) Playback switching point adjustment (refer to Section 3-1).

3) Checking and adjustment of entire video and audio systems (refer to Sections 4-2, 4-3 and 4-5).

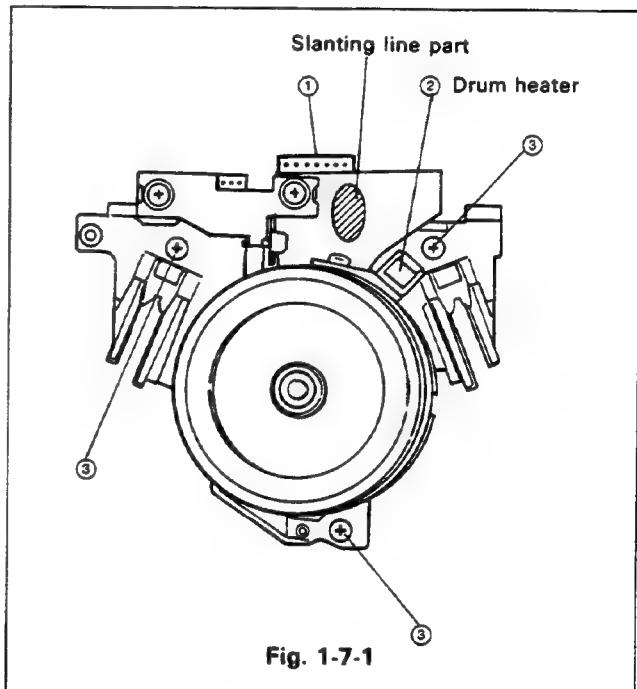


1-7. REPLACEMENT OF DRUM ASSEMBLY (Figure 1-7)

- 1) Remove the preamp circuit assembly. (Refer to Item 3-3.)
- 2) Remove the drum assembly connector ① and drum heater ②. (When removing connector ① hold down the slanting line part of the print substrate.)
- 3) Remove the three screws ③ and then remove the drum assembly.

Note: Do not touch the drum head tips or damage the drum assembly during this procedure.

- 4) Follow the above instructions in reverse order to install the drum assembly.



- 5) After replacing, check and adjust as follows.

1) Adjust tape path. (Refer to Section 2.)

2) Adjust for compatibility. (Refer to Section 3.)

3) Make necessary adjustments to the servo system, video system, and audio system.

(Refer to Sections 4-2, 4-3 and 4-5.)

NOTE

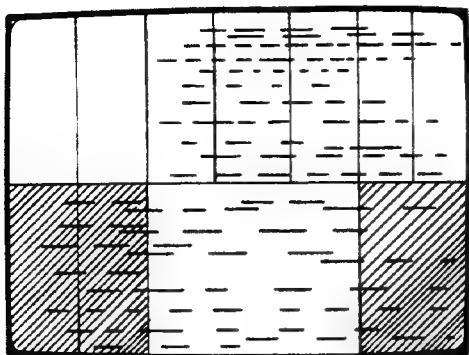
The following items must be checked after replacing the drum assembly.

When you have replaced the drum assembly of the unit that do not have the capacitor *C654 0.022μF on the PWB S/S/V or S/S/A/V, make sure whether there is a phenomenon described as follows. (Refer to the illustration below.)

In some cases, the noise with colored dots appears on the entire picture screen as shown in the illustration. In this case add a ceramic capacitor 0.022μF between the pin (3) and pin (4) of the drum motor connector CN604 on the PWB S/S/V or S/S/A/V.

The exactly same phenomenon may possibly appear when you have replaced the PWB S/S/V or S/S/A/V, cure it in the same manner as above.

*Note: C654 is the capacitor connected between the pins (3) and (4) of the connector CN604 on the PWB S/S/V or S/S/A/V.



(6) Handling of Service Drum Package

Remove the drum from the inner box as shown in the figure below. Remove the three black screws from inside of the box, remove the board, and then remove the drum assembly.

Note:

The drum assembly is precisely adjusted. Handle carefully to prevent it from becoming dirty, scratched, damaged or deformed in any way.

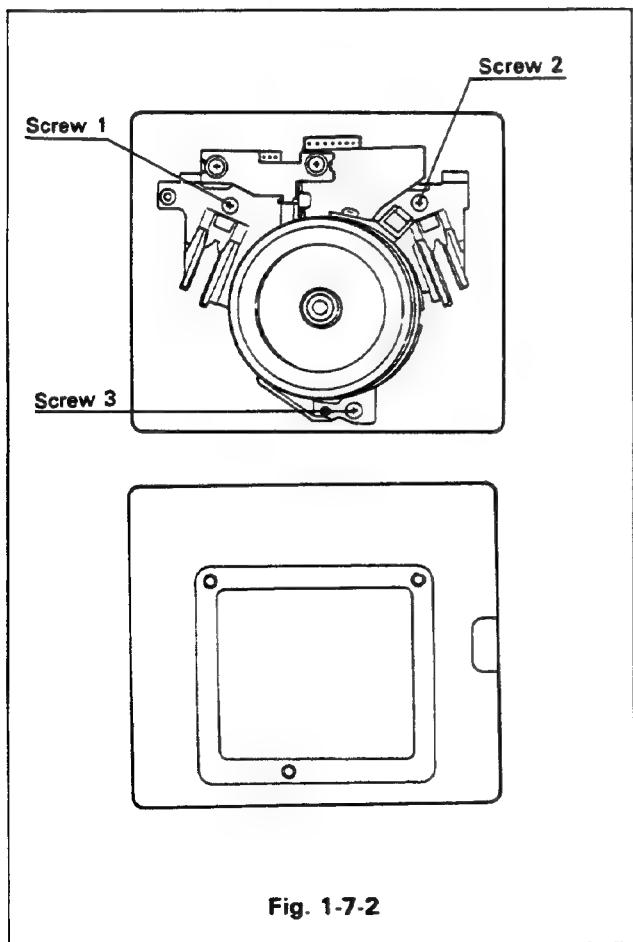


Fig. 1-7-2

1-8. REPLACEMENT OF GROUND PLATE (Figure 1-8)

1. After first placing the unit on its side, open the bottom of the unit and remove the screw ①.
2. Use the screw ① to attach the ground plate so that its contact area is aligned with the center of the drum assembly shaft.

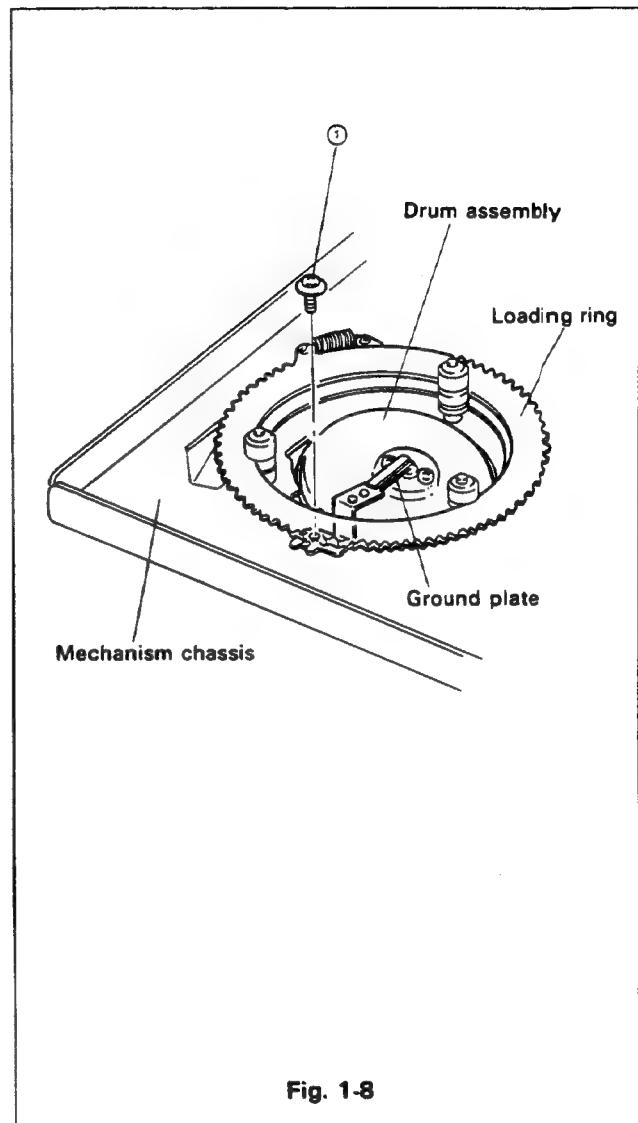


Fig. 1-8

1-9. AUDIO/CONTROL HEAD

(Figure 1-9)

- (1) Remove connectors ① and ② from the ACE head circuit board. (Remove wires from clamper ① first.)
- (2) Use a box driver (J-5) to remove nylon nut ②.
- (3) Rotate the ACE head assembly clockwise, so that it is slightly away from the taper pin, then pull upwards from the head pivot. Be careful during this procedure, because the (TC) spring applies pressure to the assembly.
- (4) Replace the ACE head assembly and mount it into position by following the above procedure in reverse.
- (5) After the ACE head assembly has been replaced, adjust the height of the new ACE head assembly.
- (6) To adjust the height of the ACE Head, first place the Master Plane B Jig (J-13) on the chassis. Place the Height Gauge BM-2 Jig (J-14) on J-13 with the surface marked with an "H" facing up, and use the nylon nut box driver (J-5) to adjust to the same height as part A. Also, adjust the height of the tapered pin by following the same procedure as for the ACE Head. Use adjustment driver (J-4) to adjust to the same height as part B.

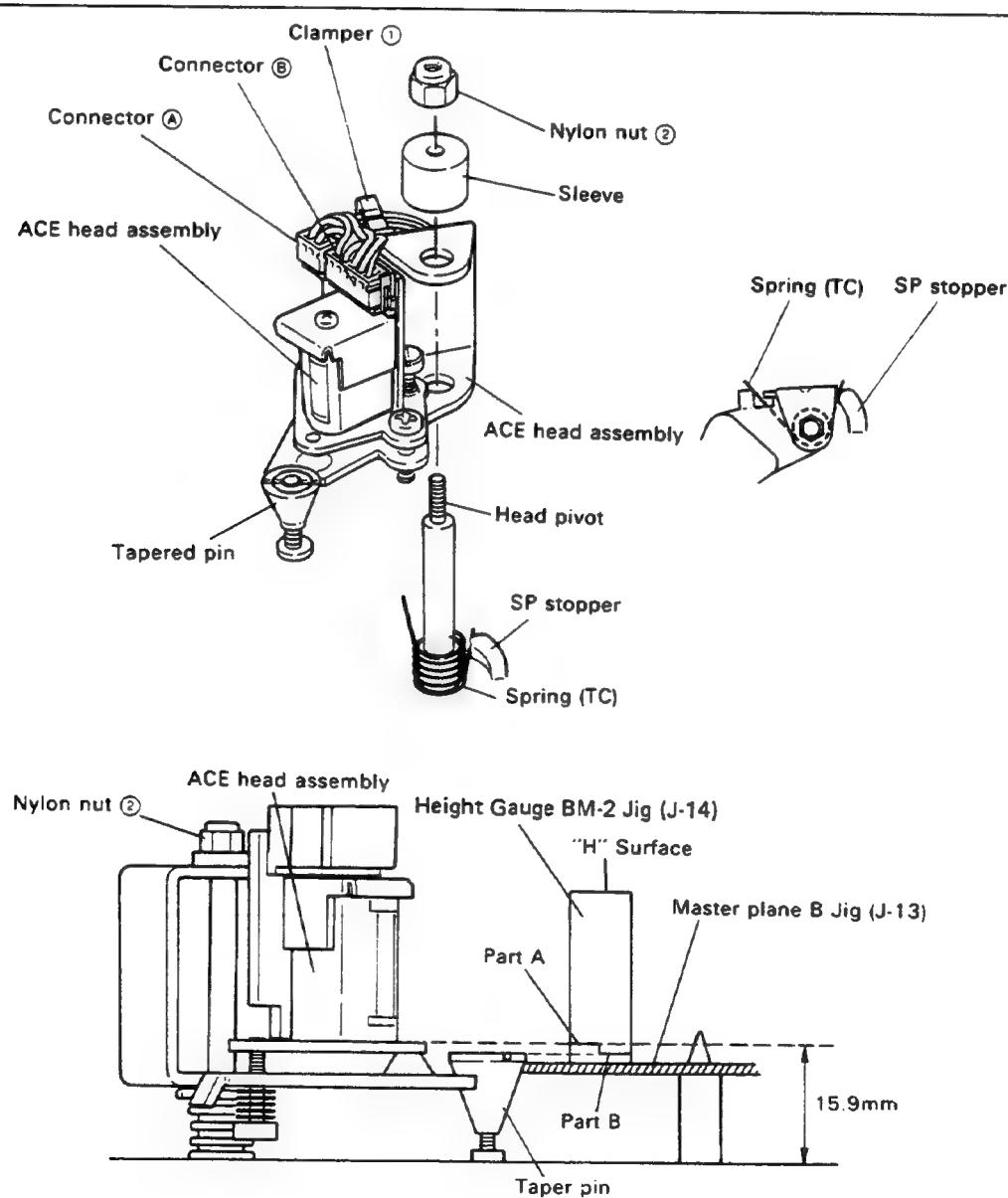


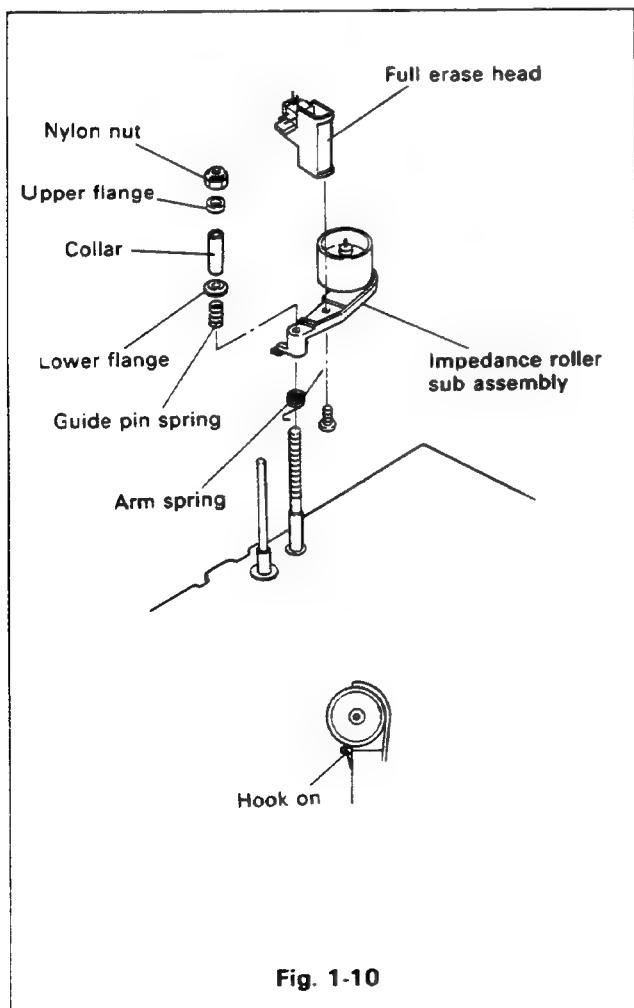
Fig. 1-9

1-10. FULL ERASE HEAD (Figure 1-10)

- (1) Remove the connector from the full erase head.
- (2) First remove the nylon nut, then remove the upper flange, collar, lower flange, guide pin spring, and arm spring.
- (3) Remove the impedance roller Sub assembly upwards.
- (4) Remove the screw that secures the full erase head from underneath the impedance roller arm. Then remove the full erase head itself.
- (5) Replace the full erase head and mount it into position, following the above procedure in reverse.

1-11. IMPEDANCE ROLLER SUB ASSEMBLY (Figure 1-10)

- (1) Remove the nylon nut, the upper flange, collar, lower flange, guide pin spring, and arm spring.
- (2) Remove the impedance roller Sub assembly upwards.
- (3) Replace the impedance roller Sub assembly and mount it into position by following the above procedure in reverse.

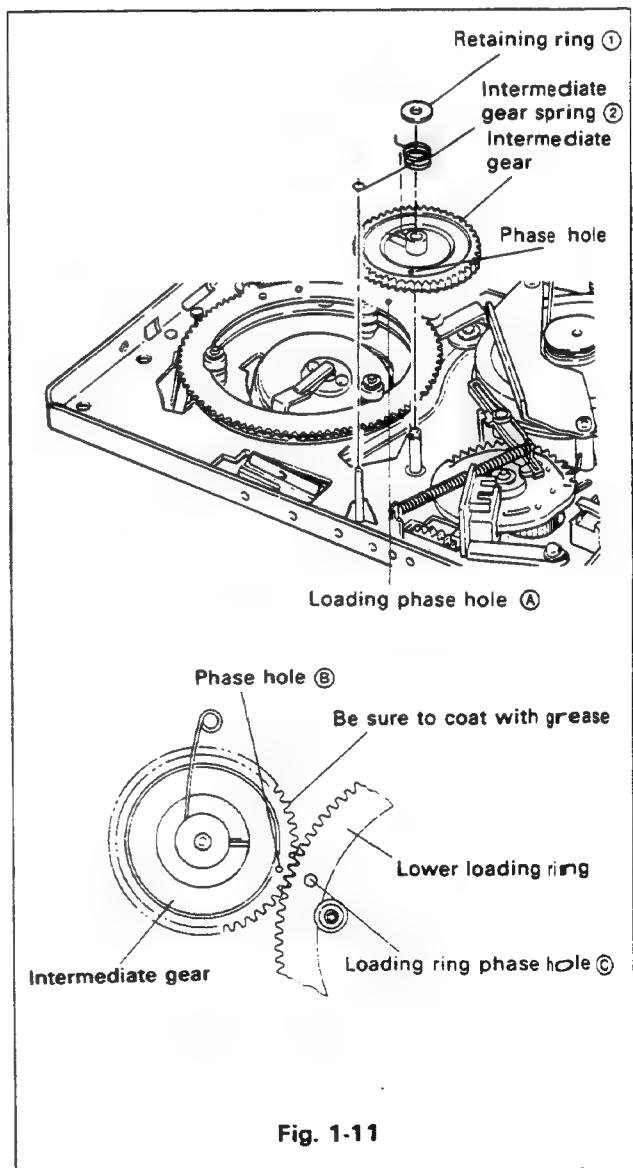


1-12. INTERMEDIATE GEAR (Figure 1-11)

- (1) Remove the retaining ring ①. Then remove intermediate gear spring ②.
- (2) Remove the intermediate gear upwards.
- (3) Replace intermediate gear and mount it into position by following the above procedure in reverse.

Notes:

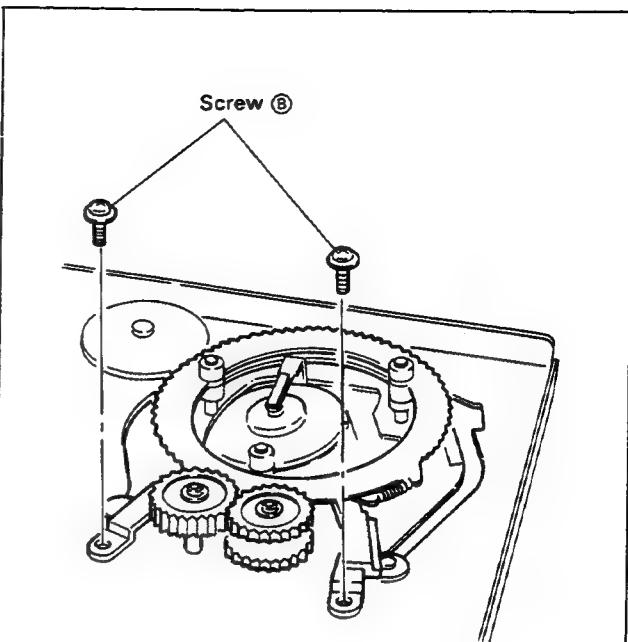
1. As shown in Fig. 1-11, when loading phase holes Ⓐ of the upper and lower loading rings are aligned, attach intermediate gear so that the phase hole Ⓑ of intermediate gear and phase hole Ⓒ of the loading ring are facing each other, as shown in Fig. 1-11.
2. Be sure that intermediate gear spring ② is firmly secured to the lock of the intermediate gear.



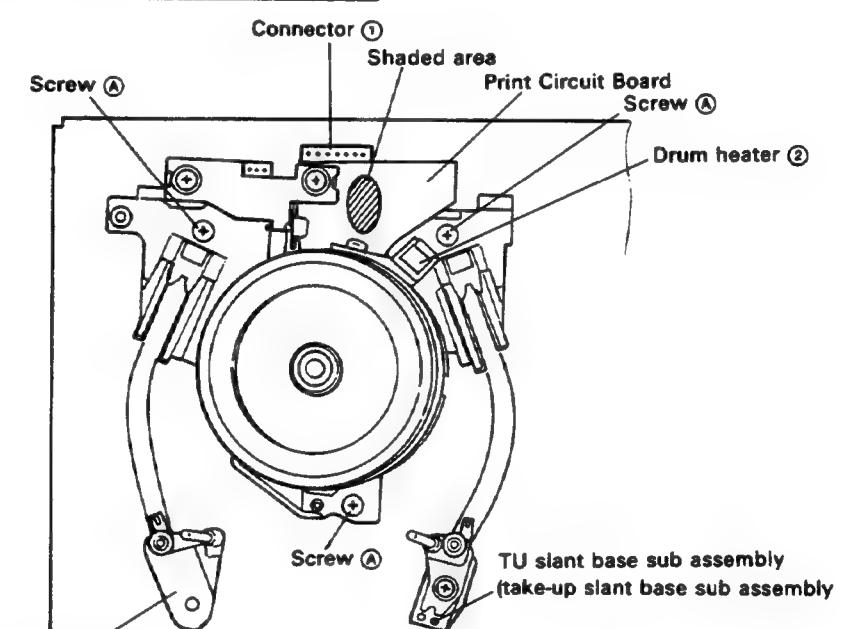
1-13. S SLANT BASE/TU SLANT BASE SUB ASSEMBLY (Figure 1-12)

- (1) Remove the preamp circuit board assembly (Refer to Item 3-3 of Section 2.)
- (2) Remove connector ① of the drum assembly and drum heater ②. (Press the shaded area down with your fingers when replacing connector ① so as not to damage the printed circuit board. When attaching connector ①, be sure to support underneath the circuit board with your fingers.)
- (3) Remove the three screws Ⓐ of the drum assembly, then remove the drum assembly upwards. (Be sure not to damage the head tips during this procedure).
- (4) Remove the two screws Ⓑ, from the reverse side of the chassis.
- (5) Slide and remove the S slant base Sub assembly from the chassis.
- (6) Replace the S slant base Sub assembly and mount it into position by following the above procedure in reverse.

Note: The procedure for replacing the TU slant base Sub assembly is the same as that for removing the S slant base Sub assembly.



Reverse Side of Chassis



S slant base sub assembly
(supply slant base sub assembly)

Fig. 1-12

Chassis Upper Surface

1-14. ENTIRE MODE CAM ASSEMBLY (Figure 1-13, 1-14)

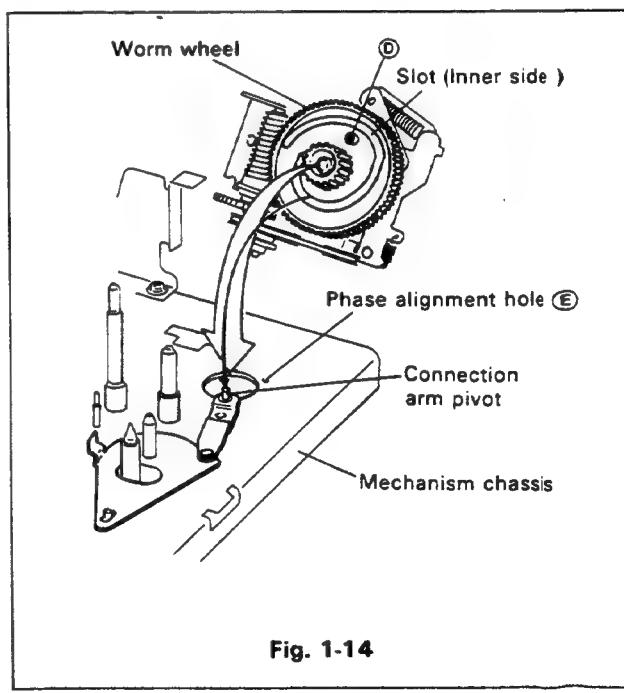
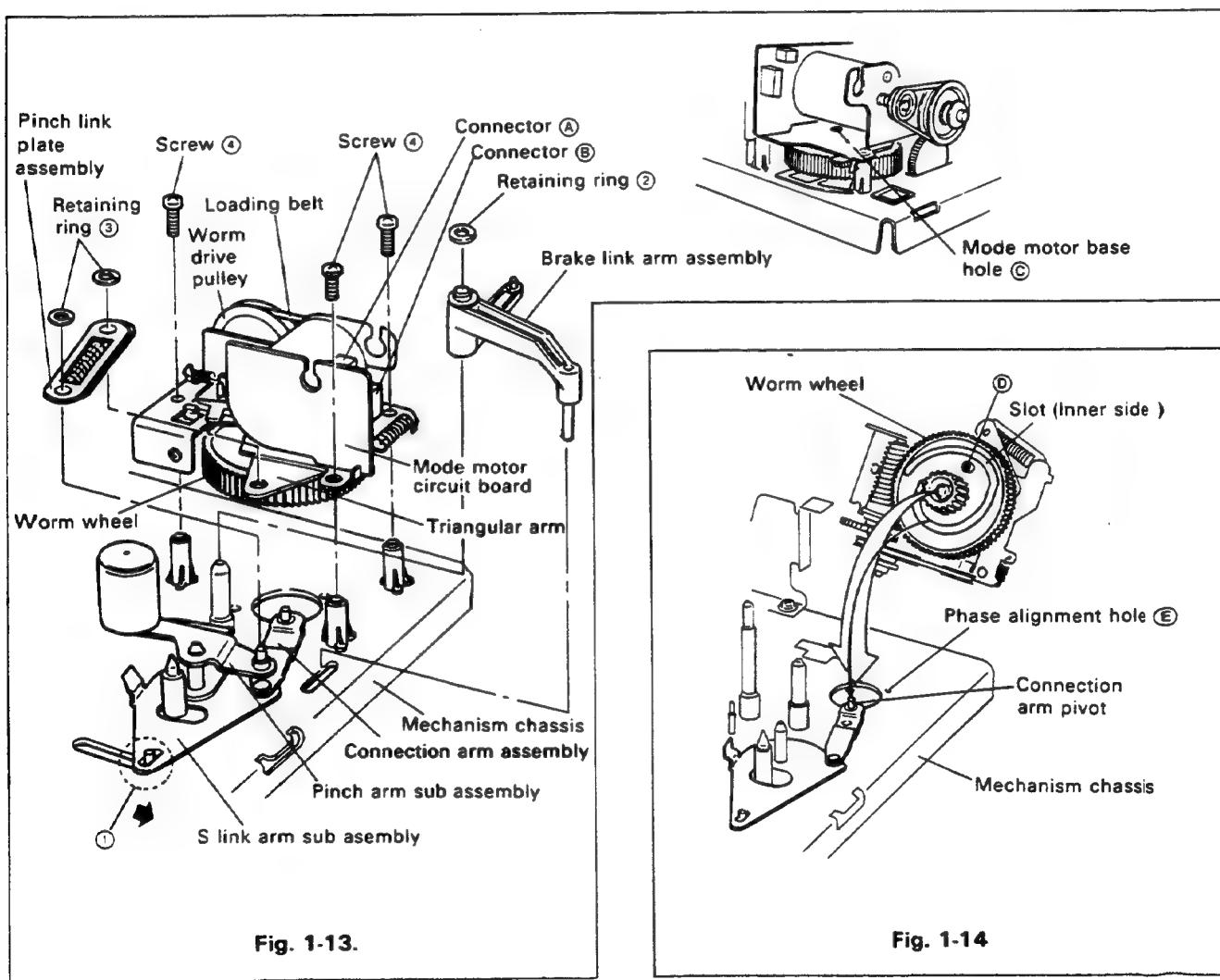
- (1) Remove the loading belt of the entire mode cam assembly. Rotate the worm drive pulley by hand so that the ① part of the S link arm assembly comes as far to the right as possible as shown in Fig. 1-13. (This position is the same as for the FF or the REW mode.) Remove connectors Ⓐ and Ⓑ of the mode motor circuit board. Next, remove the wires going through the groove of the circuit board. (During this procedure, be sure to remove the connectors of the ACE head first.)
- (3) Remove retaining ring ②, and then remove the brake link arm assembly.
- (4) Remove retaining rings ③, then remove the pinch link plate assembly.

- (5) Remove three screws ④, then remove the entire mode cam assembly upwards.

- (6) Replace the entire mode cam assembly and mount it into position by following the above procedure in reverse.

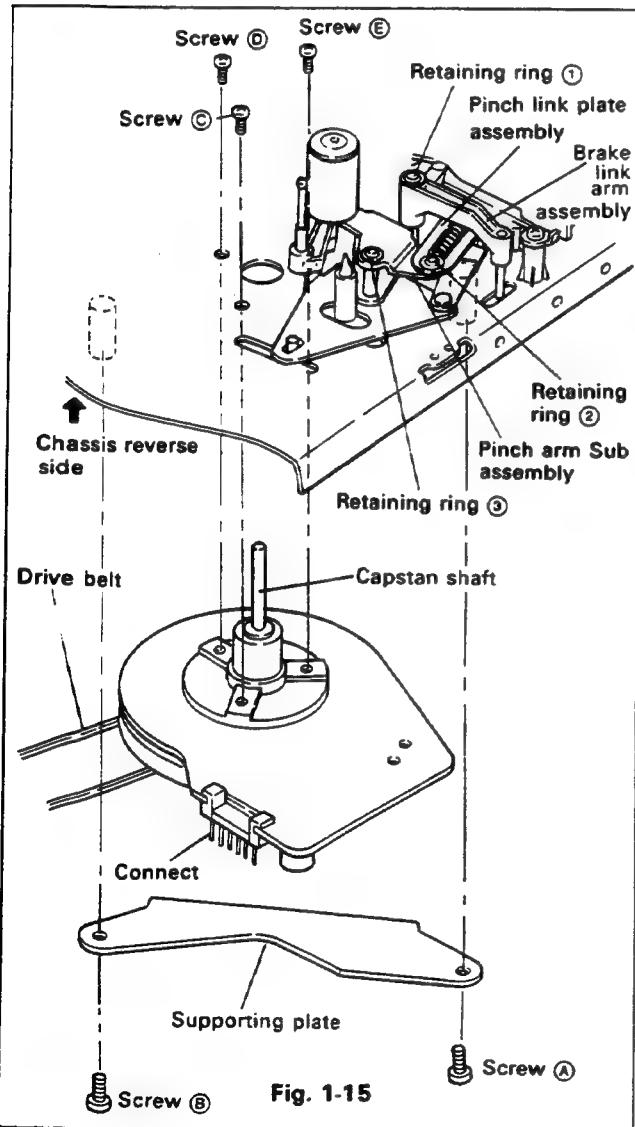
Notes:

1. When attaching the mode motor assembly on the chassis, first align the mode motor worm wheel hole ⑤ with the mode motor base hole ⑥ by rotating the worm drive pulley.
2. Attach the mode motor assembly so that the ① part of the S link arm assembly comes as far to the right as possible. At this time, be sure to confirm that the hole ⑦ on the chassis, and holes ⑧ and ⑨ described above are in alignment.



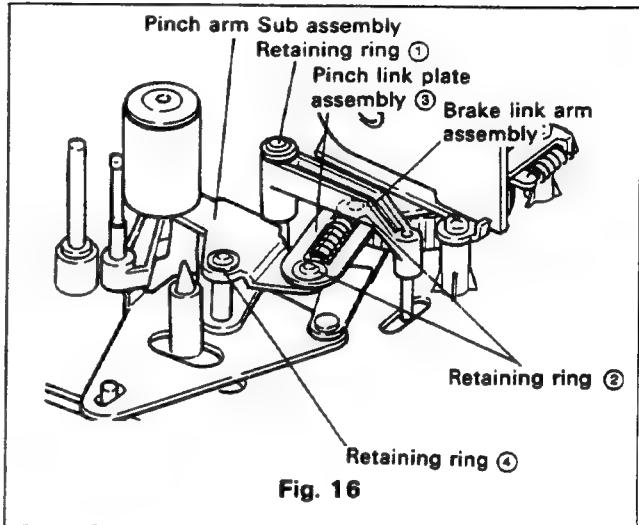
1-15. CAPSTAN MOTOR (Figure 1-15)

- (1) Remove retaining ring ①, and then remove the brake link arm assembly.
- (2) Remove retaining rings ② and ③, then remove the Pinch arm sub assembly upwards.
- (3) View from the reverse side of the chassis, remove screws ④ and ⑤, then remove the supporting plate.
- (4) Remove the drive belt, then remove the connector from the capstan motor circuit board. Remove screws ⑥, ⑦ and ⑧.
- (5) Remove the capstan motor.
- (6) Replace the capstan motor and mount it into position by following the above procedure in reverse. During this operation, care should be taken not to damage or magnetize the capstan shaft.



1-16. PINCH ARM SUB ASSEMBLY (Figure 1-16)

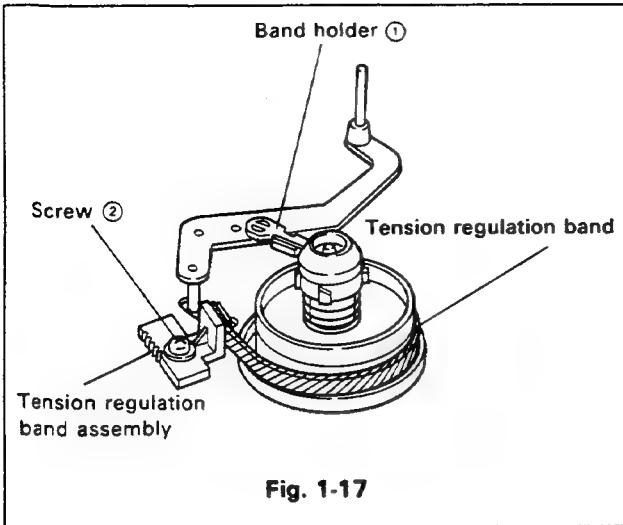
- (1) Remove retaining ring ①, and then remove the brake link arm.
- (2) Remove retaining rings ②, then remove pinch link plate assembly ③.
- (3) Remove retaining ring ④ and then remove the pinch arm Sub assembly upwards.
- (4) Replace the pinch arm Sub assembly and assemble it into position by following the above procedure in reverse.



1-17. TENSION REGULATION BAND ASSEMBLY (Figure 1-17)

- (1) Remove band holder ① of the tension regulation band assembly from the tension regulation arm assembly. Next, remove screw ② and remove the tension regulation band assembly. (Fig. 1-17)
- (2) Exchange the tension regulation band assembly with a new replacement and mount it into position by following the above procedure in reverse.
- (3) Adjust the tension regulation arm assembly according to the following procedure.

CAUTION: Excessive pressure on the lever during band holder replacement could bend it out of shape.

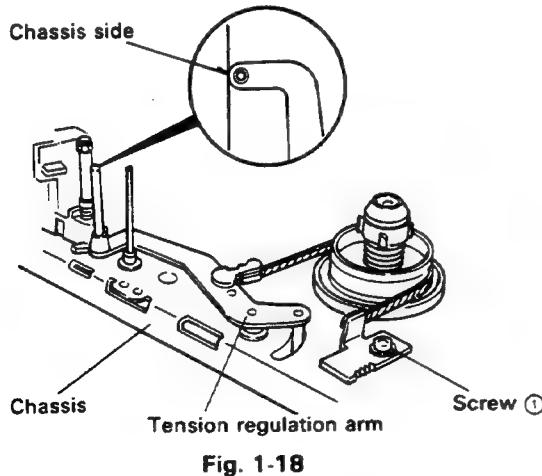


1-18. ADJUSTING THE TENSION REGULATION ARM POSITION (Figure 1-18)

- (1) With the cassette housing removed, activate the play mode.
- (2) Adjust screw ① so that the left end of the tension regulation arm comes in alignment with the chassis side, secure it firmly as shown in Fig. 1-18.

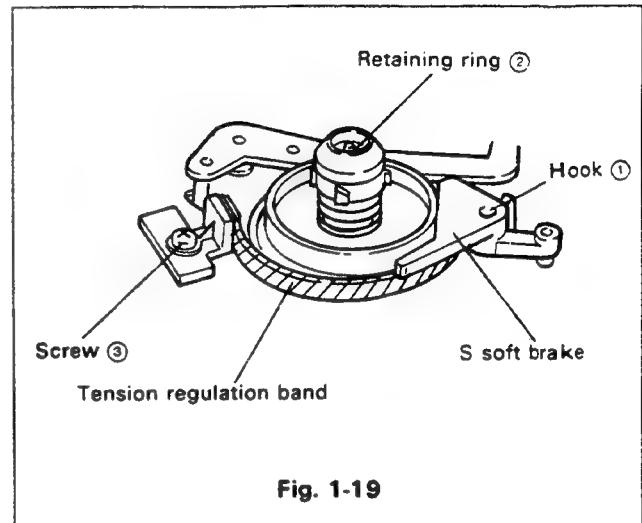
Note:

If back tension is incorrect, check the tension pole position. Use the back tension cassette gauge and confirm a value of between 17 and 32 gcm. If necessary, replace the tension arm spring or tension band and readjust the tension pole position.



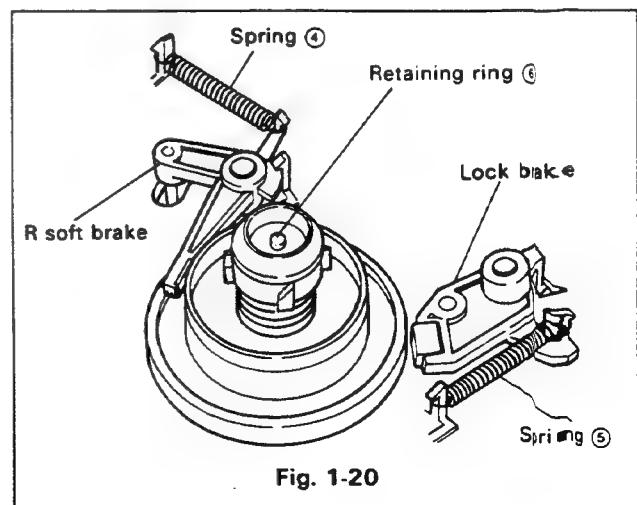
1-19. SUPPLY REEL DISK (Figure 1-19)

- (1) Release the S soft brake upwards from hook ①.
- (2) Remove the retaining ring from the reverse side of the tension regulation arm, then remove screw ③ and tension regulation band.
- (3) Remove retaining ring ②, then remove the supply reel disk.
- (4) Replace the reel disk and mount it into position by following the above procedure in reverse.



1-20. TAKE-UP REEL DISK (Figure 1-20)

- (1) Remove spring ④, then remove the R soft brake upwards.
- (2) Remove spring ⑤, then remove the lock brake upwards.
- (3) Remove retaining ring ⑥, then remove the take-up reel disk.
- (4) Replace the reel disk and mount it into position, by following the above procedure in reverse.



1-21. ADJUSTMENTS WHEN REPLACING THE SUPPLY AND TAKE-UP REELS (FIGURE 1-21)

Height adjustment of reel disk (height confirmation of supply and take-up reel disks)

Set the Master Plane B Jig (J-13) on the chassis. (Fig. 1-21-1)

Next, place the Height Gauge BM-2 Jig (J-14) in the positions indicated by the two arrows in Fig. 1-21-1. Slide as shown in Fig. 1-21-2, and verify that the upper surface of the reel disk slides over the A surface of the Height Gauge BM-2 Jig (J-14) and not over the B surface of the Height Gauge BM-2 Jig (J-14).

Note: When checking the height of the supply reel disk, place the Master Plane B Jig (J-13) so that the "S" mark of the Height Gauge BM-2 Jig (J-14) faces upwards.

When checking the height of the take-up reel disk, place the Master Plane B Jig (J-13) so that the "TU, R" mark of the Height Gauge BM-2 Jig (J-14) faces upwards.

If reel disk is outside this range, use polyester washers to make the required adjustments (Fig. 1-21-3).

Part numbers of polyester washers for adjustment

16628731 thickness 0.5 mm

16288001 thickness 0.13 mm

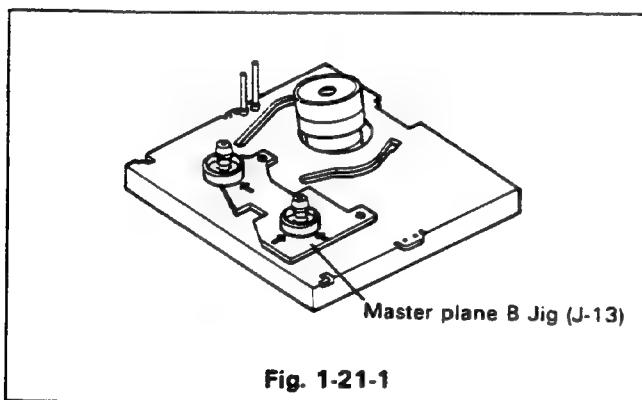


Fig. 1-21-1

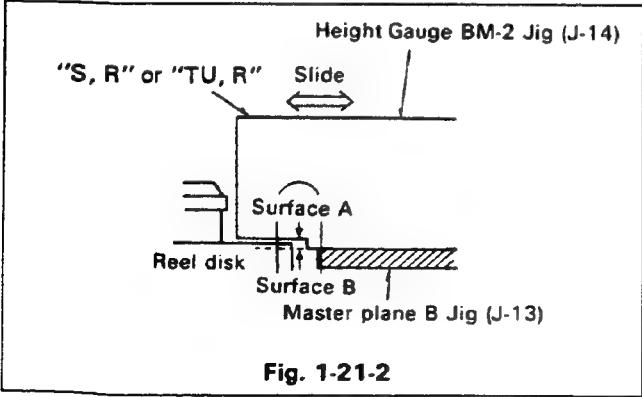


Fig. 1-21-2

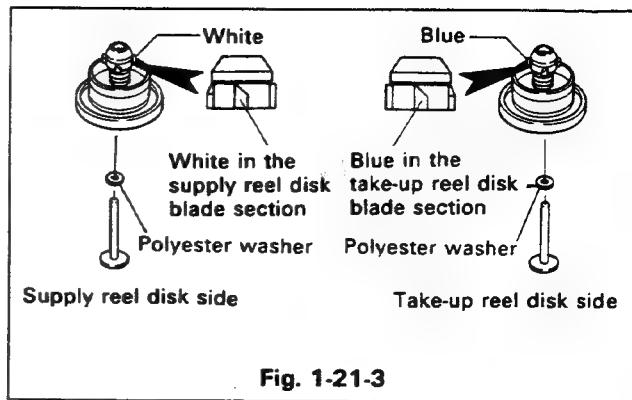


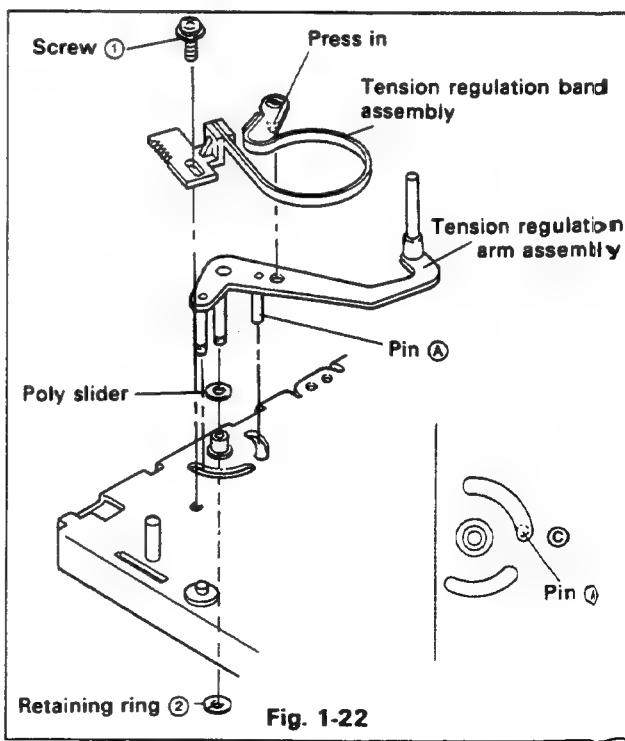
Fig. 1-21-3

1-22. TENSION REGULATION ARM ASSEMBLY (Figure 1-22)

- 1) Remove screw ①, then remove the tension regulation band assembly from the tension regulation arm assembly.
- 2) Remove retaining ring ② from the reverse side of the chassis.
- 3) Remove the tension regulation arm assembly upwards.
- 4) Replace the tension regulation arm assembly and mount it into position by following the above procedure in reverse.

Notes:

1. When installing the tension regulation arm assembly into place, pin ④ should fall into position ③ as shown in Fig. 1-22.
2. Adjust the position of the tension regulation arm by referring to Item 1-18.



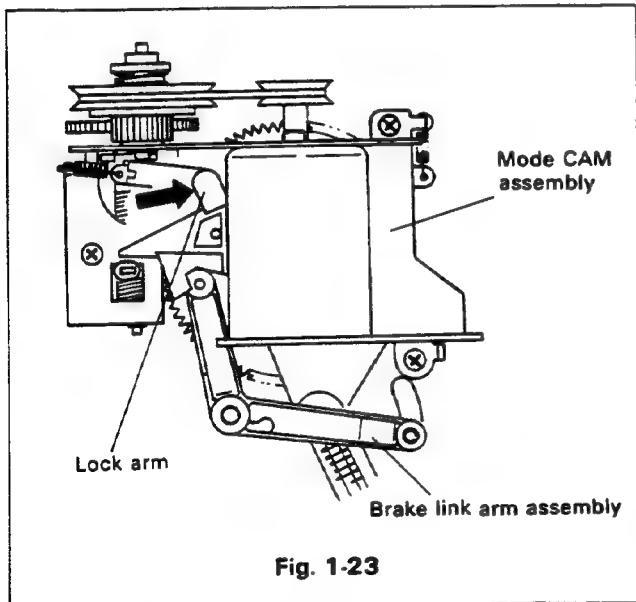
1-23. MEASURING AND CHECKING THE FWD REEL TORQUE (Figure 1-23)

- (1) Remove the cassette housing and short TP101 and TP102 of the S/S/V circuit board with a clip. (Refer to Fig. 1-5.)
- (2) Activate the FWD mode.
- (3) Set the torque gauge on the take-up reel disk base and measure the torque.
- (4) FWD torque rating: $90 \text{ gcm} \pm 15 \text{ gcm}$.
- (5) FF, REW torque rating: more than 400 gcm .
- (6) REV torque rating: $170 \text{ gcm} \pm 25 \text{ gcm}$.

1-24. MEASURING AND CHECKING THE BRAKING TORQUE (Figures 1-23, 1-24, 1-25)

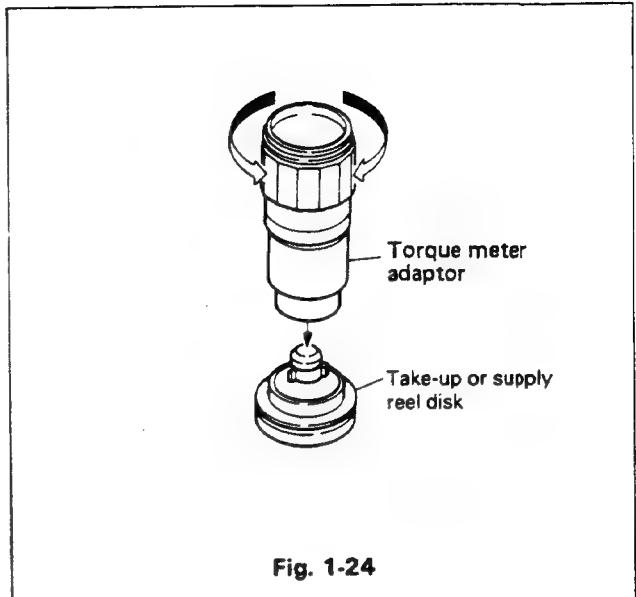
Be sure to carry out the following measurements after the brake arm (R),(L) has been replaced.

- (1) Remove the cassette housing.
- (2) Keep the VCR in the FF mode and unplug the AC cord.
- (3) Press the lock arm of the mode cam assembly in the direction of the arrow.



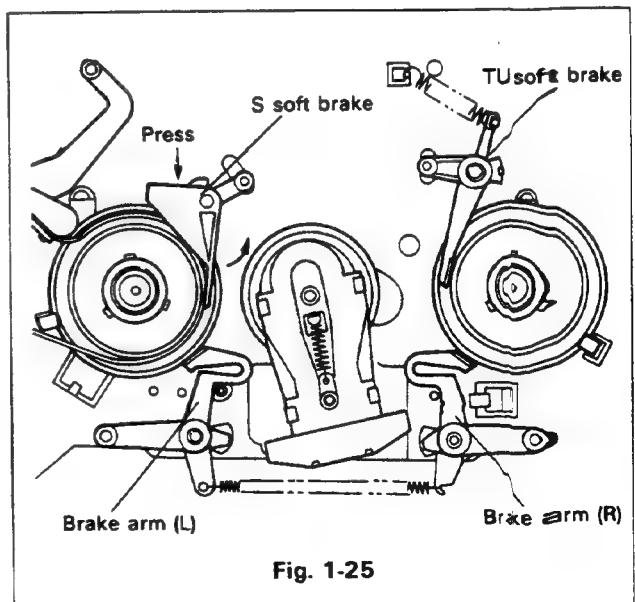
- (4) Before measuring the torque of the brake arm (L), lightly push the S soft brake in the direction indicated by the arrow, then release the tension regulation band from the reel disk.
- (5) Place a torque meter on the S reel disk. Grasping the torque meter lightly, turn it clockwise, and read out the value when the meter face plate begins to move along together with the meter needle. Check that this value falls between $250 \sim 500 \text{ gcm}$.

- (6) Using the same procedure as above, lightly grasp the torque meter, turn the gauge counterclockwise, and read out the value when the meter face plate begins to move along with the meter needle. Check that this value falls between $50 \sim 180 \text{ gcm}$.



Notes:

1. When measuring the brake arm (R) torque, lightly push the TU soft brake so that it releases from the reel disk, following the same procedure as when measuring the torque of the brake arm (L).
2. If the measured value deviates excessively from the appropriate values, carefully check the springs, etc.



2. CHECKING AND ADJUSTING THE TAPE PATH

Because the tape transport system is precision-adjusted at the factory prior to product shipment, there is usually no need to re-adjust the system. Note, however, that after

extensive use or when any tape transport system parts have been replaced, it becomes necessary to check and adjust the tape path and tape transport system.

2-1. TAPE PATH MECHANISM (Figure 2-1)

The S-system tape path is characterized by upper drum rotation with the video head to wind the tape into the drum in an M-shaped form.

To wind the tape accurately around the tilted drum, the tape is guided by a slanted guide posts (thrust poles) mounted to the left and right of the drum. The tape level during operation is determined by the pair of guide rollers.

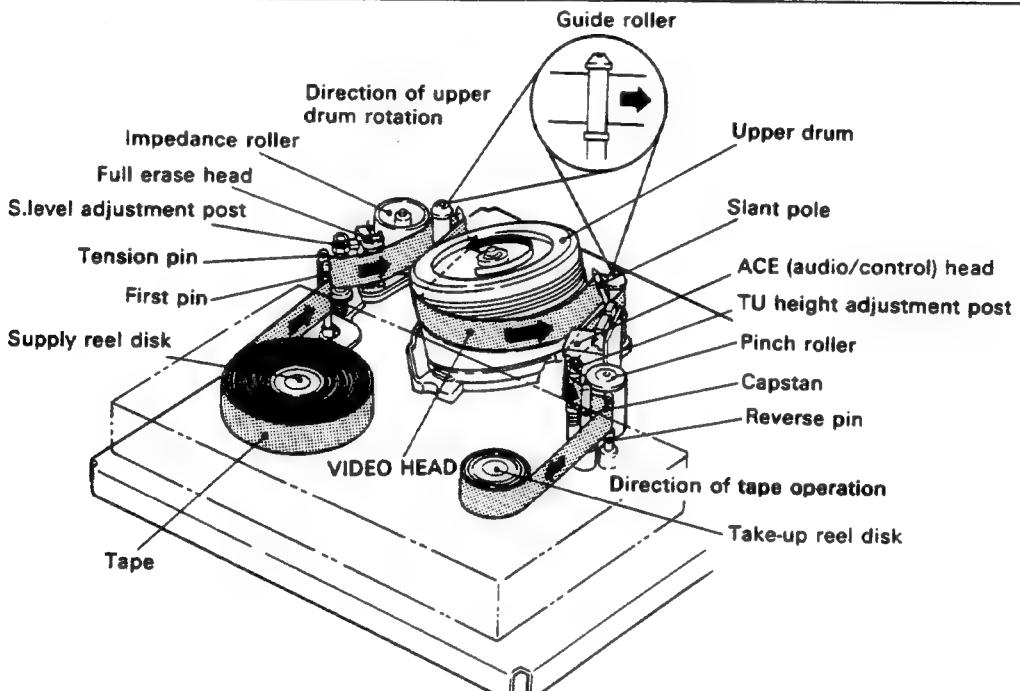


Fig. 2-1

The tape is always wound around the cassette through the first pin, tension pin, and S.level adjustment post via the path indicated by the arrows in Fig. 2-1.

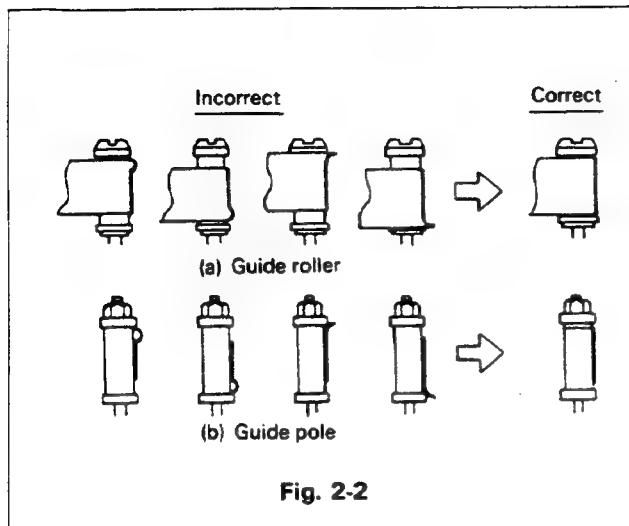
In addition, the impedance roller absorbs minor vibration in the direction of tape operation to eliminate picture jitter and voice wow and flutter.

The reverse pin controls the level of the tape fed from the take-up reel side before it reaches the capstan (pinch roller) when the tape is reversed in the REV mode.

2-2. CHECKING THE TAPE TRANSPORT SYSTEM (Figures 2-2, 2-3)

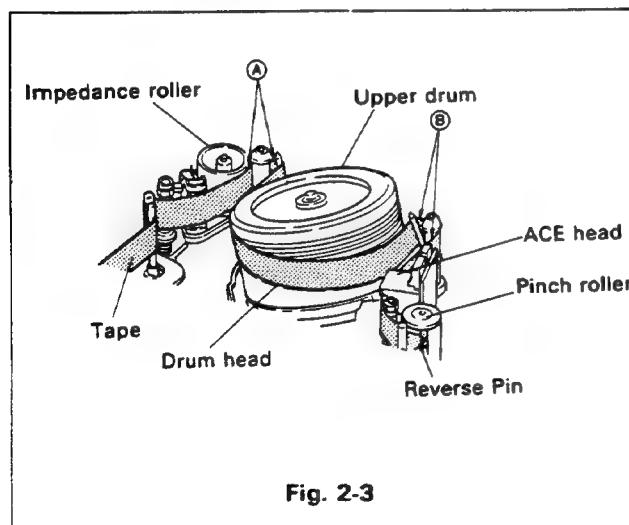
- (1) Use a E-120 cassette tape.
- (2) Use a cleaning cloth soaked in cleaning solution (isopropyl alcohol) to clean the tape transport system parts (tape guide, tape contact surface of drum, capstan shaft, pinch roller, surface of ACE and FE heads, etc.).
- (3) Use a cassette tape to check the following points.
- (4) Operate the PLAY and STOP modes a few times to ensure proper operation.

(5) In the PLAY, CUE, and REV modes, observe whether the tape is being wrinkled or not on the supply guide roller, supply guide pole, take-up guide roller, take-up guide pole and reverse pin. If the tape is being wrinkled, make the necessary adjustments by referring to figure 2-2 and performing the adjustments described in Item 2-3.



(6) In the PLAY, CUE and REV modes, confirm that tape undulation does not occur at sections Ⓐ and Ⓑ shown in Fig. 2-3. To check section Ⓑ, remove the impedance roller from the tape.

(7) Repeat the REV and CUE modes a few times alternately to check that the tape does not move up and lower at the lower area of the ACE head.



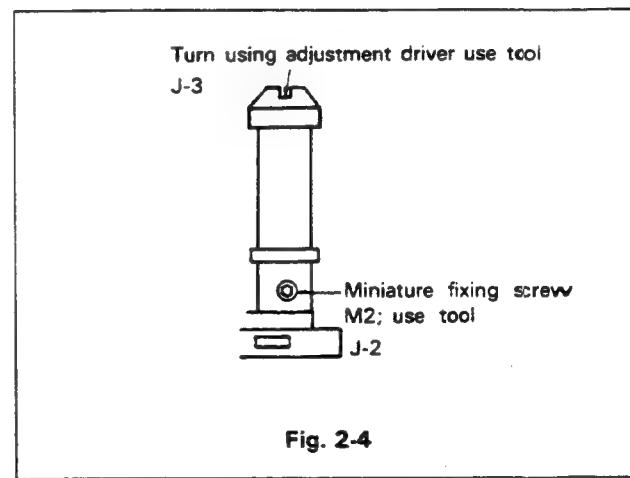
2-3. ADJUSTING THE TAPE TRANSPORT SYSTEM (Figures 2-4, 2-5, 2-6)

Only make these adjustments if a malfunction has been detected during the checking described in Item 2-2.

Note: Be sure to carry out intercompatibility adjustments after the tape transport system has been adjusted, be sure to make the intercompatibility adjustments to ensure compatibility among parts.

2-3-1 Adjusting the guide roller height (vertical pole height adjustment)

(1) As shown in Fig. 2-4, loosen the fixing screws of the supply guide roller and take-up guide roller (until the guide rollers can be turned easily by using the adjustment screwdriver).



(2) Insert a cassette tape, and activate the PLAY mode.
 (3) Rotate the supply guide roller with the adjustment screwdriver (J-3) to tighten tape tension at the upper and lower flanges.
 (4) Adjust the take-up guide roller according to the same procedure.

2-3-2 Adjusting the guide pole and reverse pin heights

Note: When adjusting the take-up guide pole height, be sure to remove the cap.

[A] Adjusting the guide pole and reverse pin heights

(1) To adjust the height of supply-side guide pole, set the Height Gauge AM-2 Jig (J-12) on the chassis as shown in Fig. 2-5 and rotate the nylon nut to adjust to the height of the lower surface of the upper flange.
 (2) To adjust the height of take-up side guide pole, place the Master Plane B Jig (J-13) on the chassis, and place the Height Gauge AM-2 Jig (J-12) on J-13 with the side marked "TU, R" facing up as shown in Fig. 2-5.

Then rotate the nylon nut to adjust to the height of the lower surface of the upper flange.

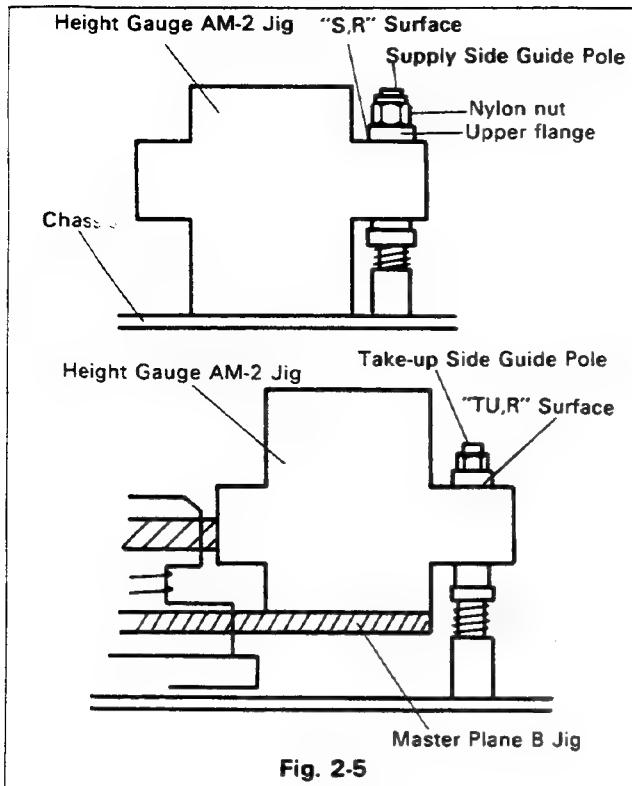


Fig. 2-5

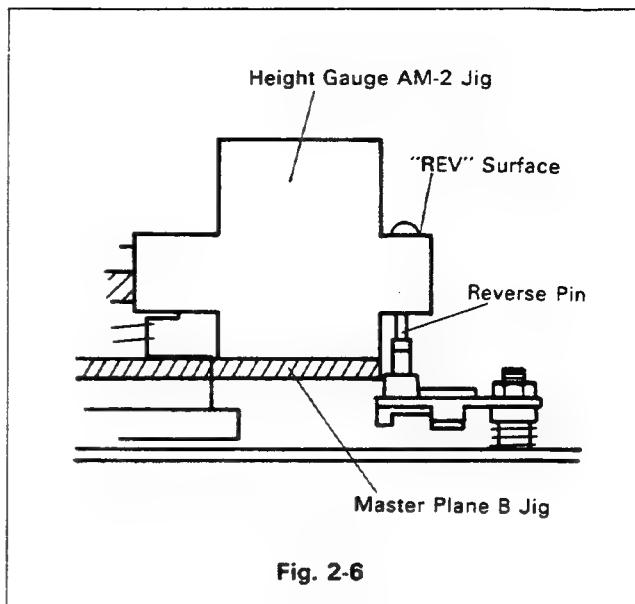


Fig. 2-6

(3) To adjust the height of the reverse pin, place the Master Plane B-2 Jig (J-13) on the chassis, and place the Height Gauge AM-2 Jig (J-12) on J-13 with the side marked "REV" facing up as shown in Fig. 2-6. Then rotate the nylon nut to adjust to the height of the lower surface of the upper flange.

[B] Precisely adjusting the supply and take-up guide pole heights

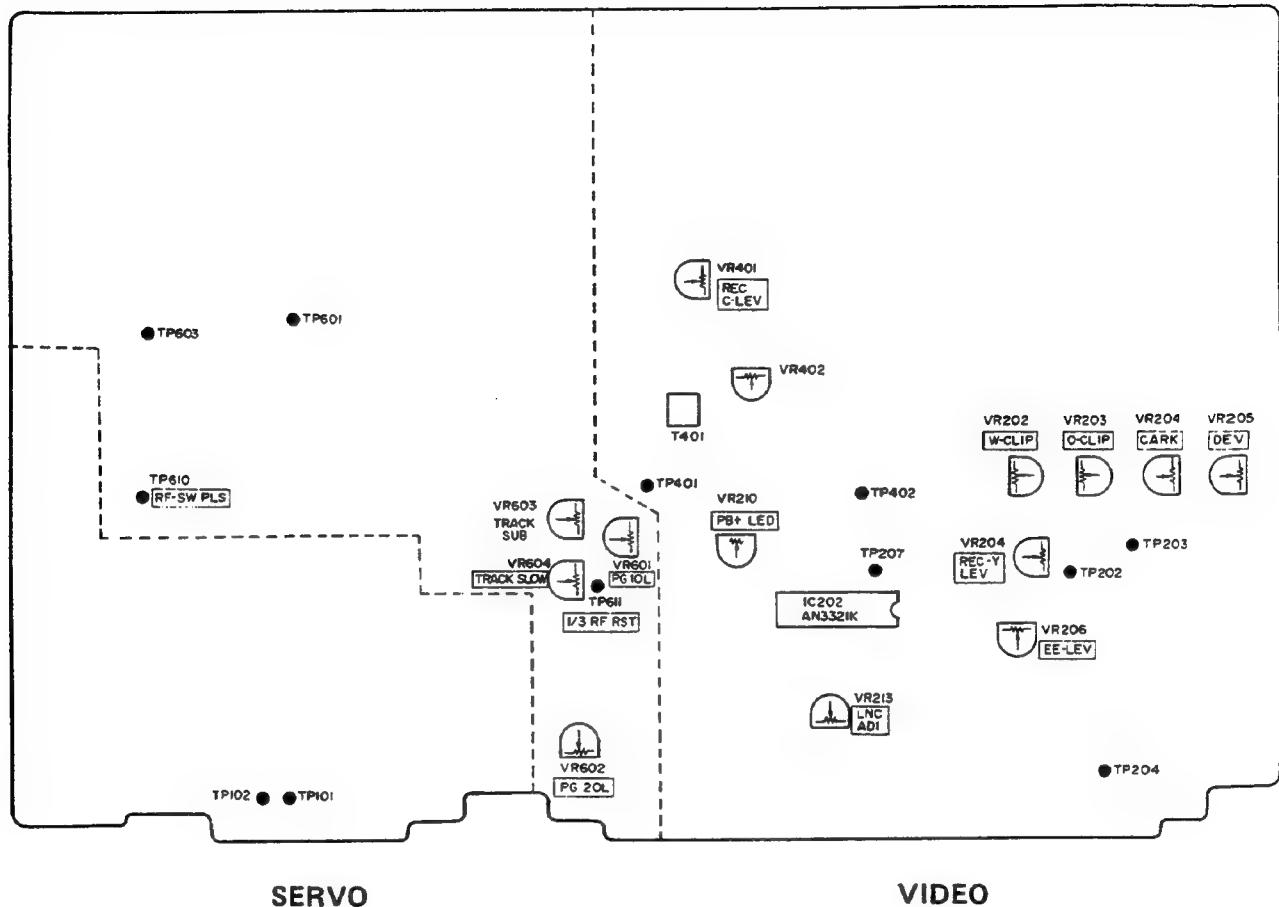
Insert a E-120 cassette tape, and activate the PLAY mode.

(2) As shown in Fig. 2-2, use the box driver (J-5) to precisely adjust the guide pole height and eliminate tape wrinkling on the pole.

(3) If tape wrinkling cannot be eliminated by the above adjustment, check the supply reel disk height, tension pin, and other parts.

3. INTERCOMPATIBILITY ADJUSTMENTS

Because these adjustments have a significant effect on the picture quality in the respective modes, as well as affecting the degree of tape intercompatibility, be sure to perform the following procedures very carefully and thoroughly.

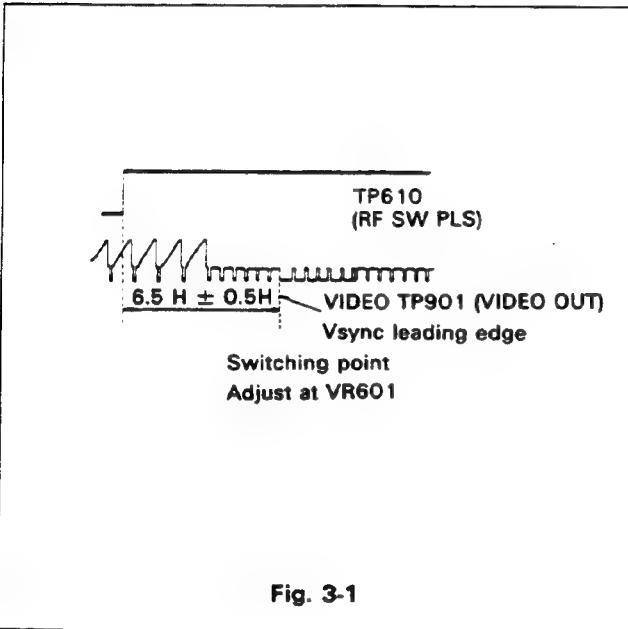


* This circuit board is viewed from component side.

3-1. CHECKING THE FM WAVEFORMS

3-1-1 Check 1: Checking the playback switching point

- (1) Play the alignment tape (MH-2).
- (2) Connect channel 1 of the oscilloscope to TP610 of the S/S/V circuit board.
- Connect channel 2 of the oscilloscope to TP901 of the jack terminal circuit board.
- (3) Confirm that the interval from the RF switching pulse to the Vsync leading edge is at $6.5H \pm 0.5H$.
- (4) If not at $6.5H \pm 0.5H$, adjust VR601 on the S/S/V circuit board to set the interval at $6.5H \pm 0.5H$.



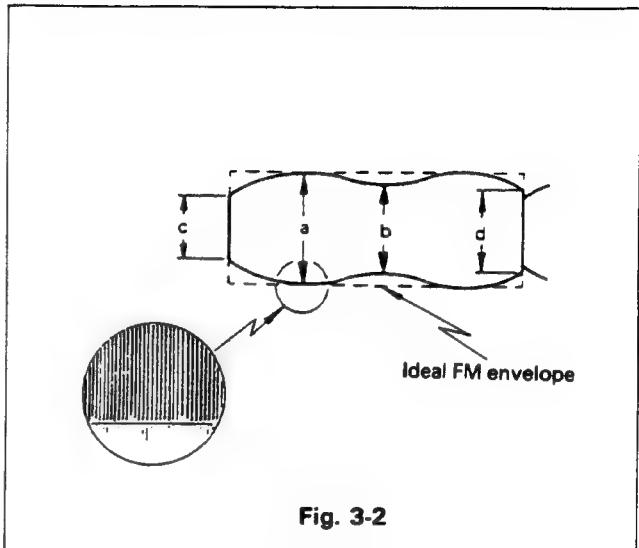
3-1-2 Check 2: Checking the FM waveform

- (1) Connect channel 1 of the oscilloscope to TP402 of the S/S/V circuit board. Also connect TP610 of the S/S/V circuit board or TP901 of the jack terminal circuit board.
- (2) Play back the MH-2 alignment tape.
- (3) Turn the tracking knob to set the FM waveform output for the maximum level.
- (4) Read the FM waveform level (a) as shown in Fig. 3-2. If the waveform is a sawtooth wave, read the level at a wave section where the sawtooth waves are relatively uniform.
- (5) Read the FM waveform level (b) as shown in Fig. 3-2, and check the following:

$$\frac{b}{a} \geq 0.8$$

- (6) Read the FM waveform levels (c) (drum entrance) and (d) (drum exit), and check the following:

$$\frac{c}{a} \geq 0.7 \quad \frac{d}{a} \geq 0.7$$



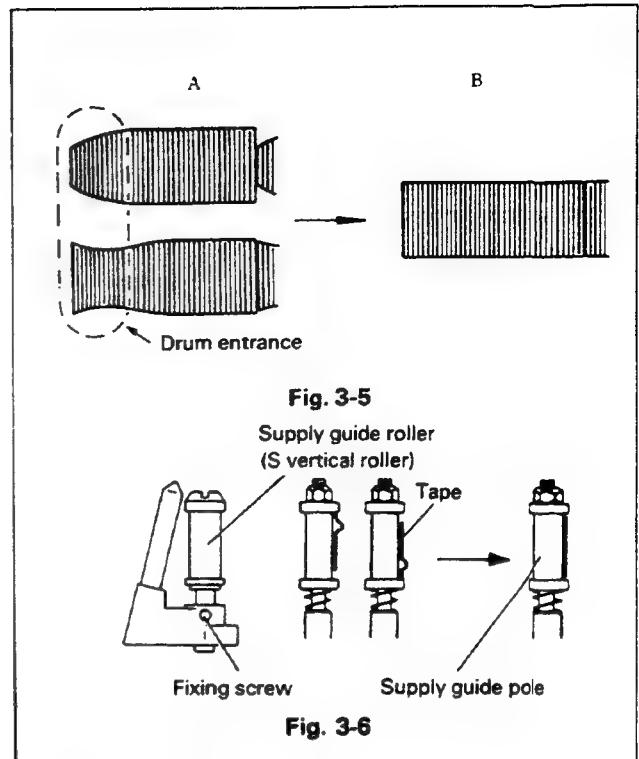
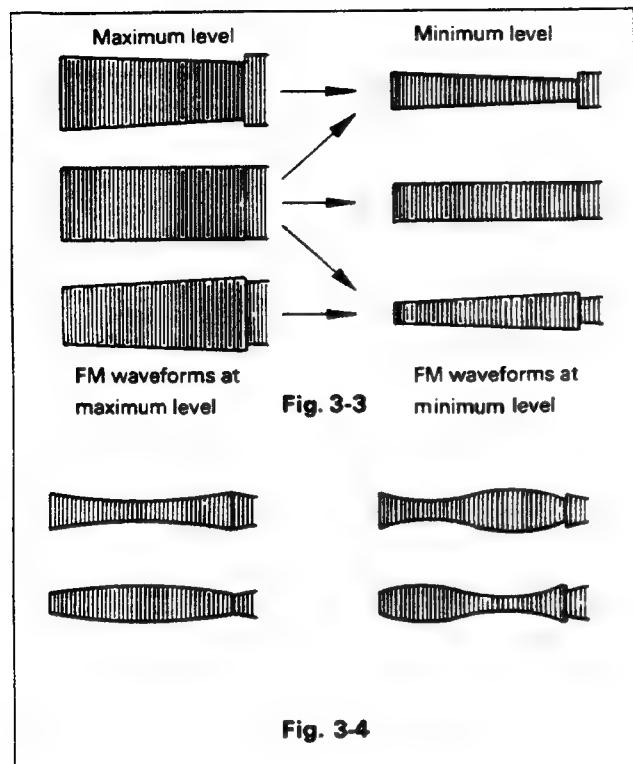
Notes:

1. Read the minimum levels of (b), (c), and (d).
2. If the level values are within the above ranges, proceed to the following "Check 3-2".
3. If any malfunction is detected, follow the coarse FM waveform adjustment procedure described in Item 3-2.

3-1-3 Check 3

- 1) As previously mentioned in Check 2 (connect the oscilloscope and play back the tape), turn the tracking knob while observing the FM waveforms. Confirm that the waveforms change linearly as shown in Fig. 3-3. When this linear change is confirmed, proceed to the ACE head height and azimuth adjustments described in Item 3-4.

(2) When various waveforms are observed as shown in Fig. 3-4, it is necessary to make the precise adjustments described in Items 3-3.



Notes:

1. Gently tighten the fixing screws so that the guide roller height adjustment screw can rotate freely. (Adjust within the proper range by using tool J-3).
2. Make small guide roller adjustments to avoid damaging the MH-2 alignment tape.
3. While observing the waveforms, check for any tape wrinkling at the guide poles and leading edge of the drum.

3-2. COARSE ADJUSTMENT OF FM WAVEFORMS (Preliminary adjustments)

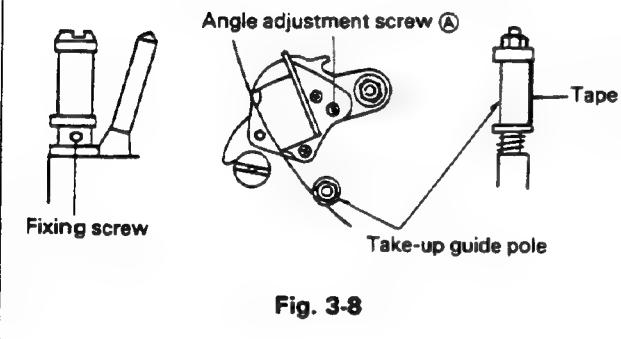
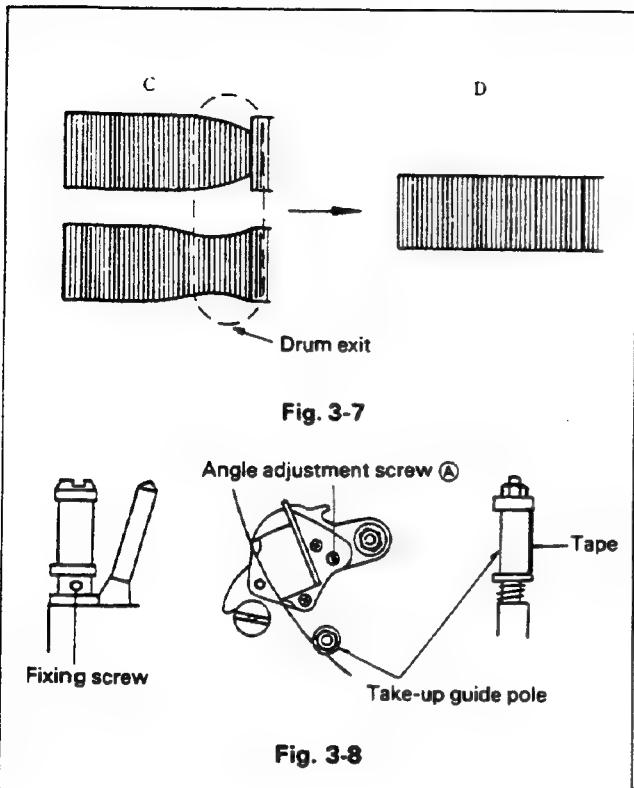
- (1) Use the hexagonal screwdriver (J-2) to loosen the fixing screws of the supply guide and take-up guide rollers so that the guide rollers can be adjusted.
- (2) Connect channel 1 of the oscilloscope to TP402 of the S/S/V circuit board. Also connect TP610 of the S/S/V circuit board or TP901 of the jack terminal circuit board to the oscilloscope as an external synchronization terminal.
- (3) Play back the MH-2 alignment tape.

3-2-1 Drum entrance side

- (1) While observing the waveforms on the oscilloscope, turn the tracking knob to set the FM waveform for the maximum level.
- (2) If the FM waveforms look like A in Fig. 3-5, adjust the supply guide roller until the waveforms look like B in Fig. 3-5.

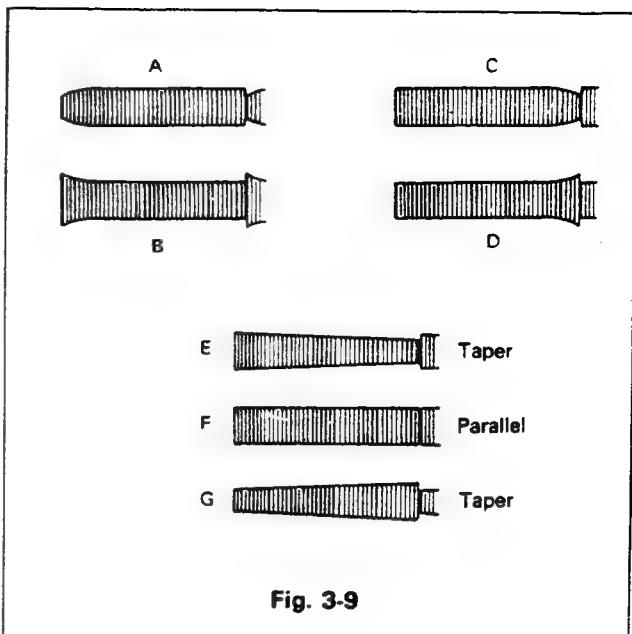
3-2-2 Drum exit

(1) Adjust the FM waveforms by using the same procedure as used for drum entrance adjustment (by turning the take-up guide roller). If the waveforms look like C in Fig. 3-7, adjust the take-up guide roller until the waveforms look like D.



3-3. FINE ADJUSTMENT FOR INTER-COMPATIBILITY

- (1) Connect the oscilloscope to TP402 of the S/S/V circuit board. Also connect TP610 of the S/S/V circuit board or TP901 of the jack terminal circuit board to the external synchronization terminal of the oscilloscope. Playback the MH-2 alignment tape. While observing the waveforms on the oscilloscope, turn the tracking knob to set the FM waveforms for minimum levels.
- (2) If the waveforms look like A or B in Fig. 3-9, minimize the FM waveform output by carefully adjusting the supply guide roller until the waveforms look like E, F, or G in Fig. 3-9.
- (3) If the waveforms look like C or D in Fig. 3-9, minimize the FM waveform output by carefully adjusting the take-up guide roller until the waveforms look like E, F, or G in Fig. 3-9.
- (4) While turning the tracking knob to adjust the maximum and minimum levels of FM waveform output, adjust the supply and take-up guide rollers until the waveforms look like E, F, or G in Fig. 3-9.



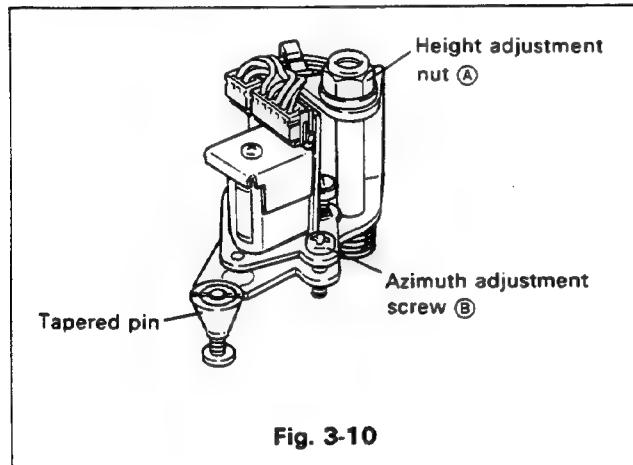
Note:

After completing these adjustments, confirm that the tape transport operation is functioning properly, and carefully tighten the fixing screws.

3-4. ACE HEAD ADJUSTMENT

If the height of the audio/control head is incorrect, a poor SN ratio will result when reproducing prerecorded tapes. Refer to Fig. 3-10.

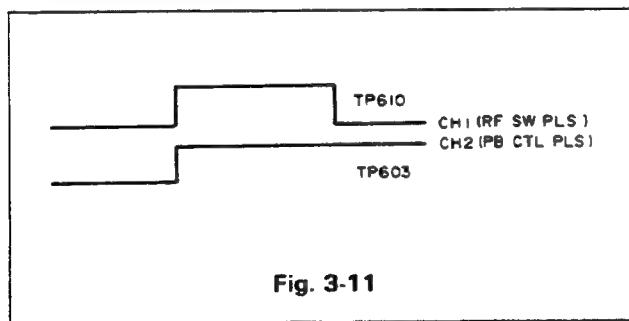
- (1) Connect channel 1 of the oscilloscope to the AUDIO OUT jack on the rear panel.
- (2) Play back the MH-2 alignment tape and reproduce the 6 KHz audio signal.
- (3) While observing the audio output signal on the oscilloscope, adjust the height adjustment nut **(A)** shown in Fig. 3-10 to the maximum output level.
- (4) Next, adjust the azimuth adjustment screw **(B)** to the maximum output level.



3-5. ADJUSTING THE CTL POSITION

[A] Adjusting subtracking

- (1) Connect channel 1 of the oscilloscope to TP610 of the S/S/V circuit board. Also, connect channel 2 of the oscilloscope to TP603 of the S/S/V circuit board.
- (2) Play back the MH-2 alignment tape.
- (3) Adjust VR603 so that the leading edge of CTL PLS is synchronized with the leading edge of the RF switching pulse as shown in Fig. 3-11.



Note: The tracking knob must be set in the center position.

[B] Adjusting the ACE head position

- (1) Connect channel 1 of the oscilloscope to TP402 of the S/S/V circuit board, and channel 2 of the oscilloscope to TP610 of the S/S/V circuit board or TP901 of the jack terminal circuit board.
- (2) Play back the MH-2 alignment tape, set the tracking knob at the center position, and turn the tapered pin in Fig. 3-10 so that the maximum FM waveform output level is set. Play back the MH-2 alignment tape, and confirm that the maximum FM waveform output level is obtained with the tracking knob set at the center position.

3-6. FINAL TESTING AND CHECKING

- (1) Connect channel 1 of the oscilloscope to TP610 of the S/S/V circuit board. Connect channel 2 of the oscilloscope to TP901 of the jack terminal circuit board.
- (2) Confirm that the REC timing is $6.5 \text{ H} \pm 1$.
- (3) Record this signal on a blank tape (using a monochrome or stair-step pattern).
- (4) Check the FM waveforms thus recorded on the tape. Connect channel 1 of the oscilloscope to TP402 of the S/S/V circuit board, and connect channel 2 of the oscilloscope to TP610 of the S/S/V circuit board. Then, play the tape back.
- (5) Confirm that the degree of evenness (a/b) is greater than 0.8, or greater than 0.85 if minor fluctuations occur.

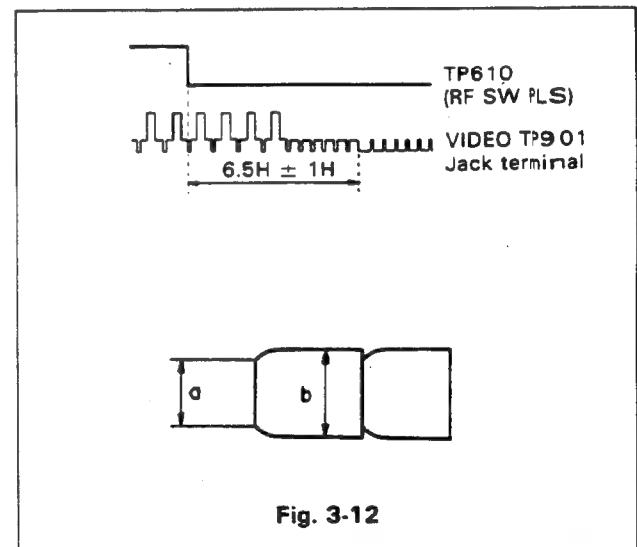


Fig. 3-12

After completing the above test and adjustment procedures, confirm that the tape transport operation is functioning properly, place locking paint on the tapered pin screw.

4. ELECTRICAL ADJUSTMENTS

4-1. PREPARATION

Electrical adjustments are required after replacing circuit components and certain mechanical parts. Note that these adjustments should only be made after completing all repairs and replacements. Also, do not attempt these adjustments unless the proper equipment is available.

4-1-1 Required test equipment and jig

① Color TV monitor	⑤ Audio generator
② Oscilloscope: Wideband	⑥ Alignment tape (MH-2), and other general electrical tools.
③ Signal generator: Color bar, Stair-step	⑦ Video tape: E-60, E-120
④ Frequency counter	⑧ Digital multimeter or tester

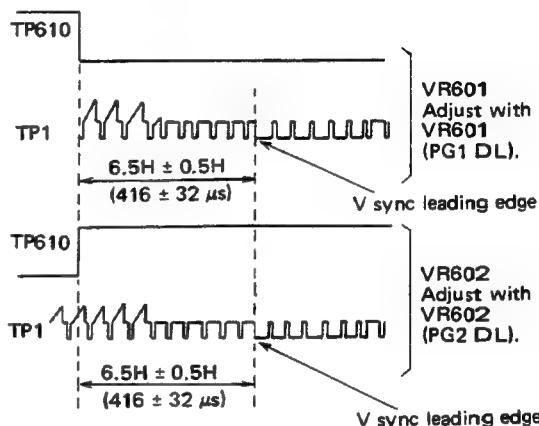
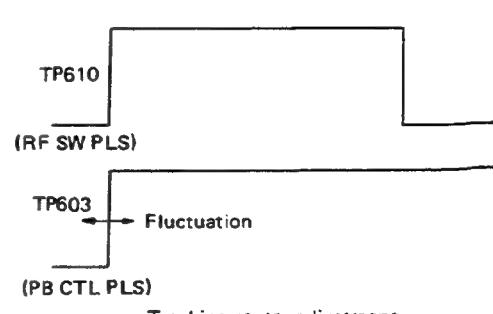
4-1-2 Alignment tape contents

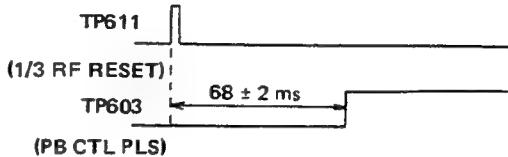
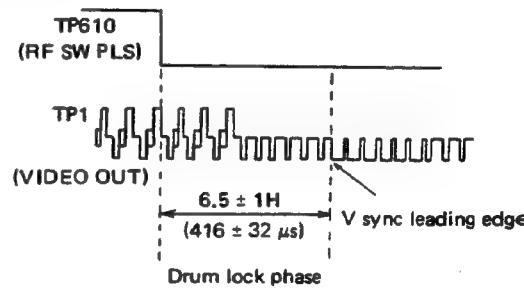
1. MH-2

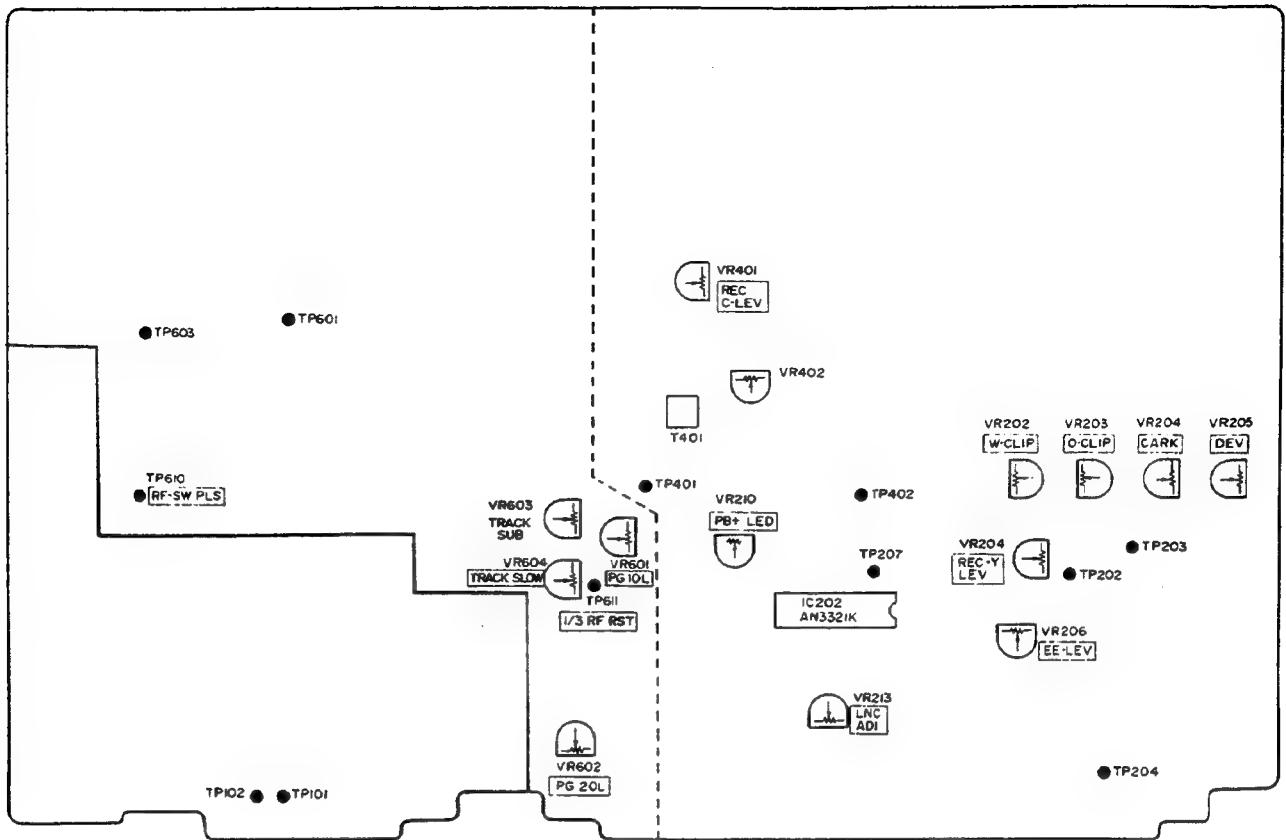
No.	Playback Time	Video Signal	Audio Signal	Applications
1	10 minutes	Stair-step	6 kHz	<ul style="list-style-type: none">● Interchangeability checks and adjustments● Servo circuit checks and adjustments● Audio head azimuth adjustment
2	5 minutes	(none)	3 kHz	<ul style="list-style-type: none">● Tape speed checks● Wow and flutter checks
3	10 minutes	Color bar	1 kHz 0 dB	<ul style="list-style-type: none">● Video signal playback circuit checks and adjustments● Audio signal playback circuit checks and adjustments
4	3 minutes	RF sweep	(none)	<ul style="list-style-type: none">● Video head resonance adjustments● Marker: 2.0, 4.0, 5.0 MHz (not used)

Table 4-1 MH-2 contents

4-2. SERVO CIRCUIT (S/S/V board)

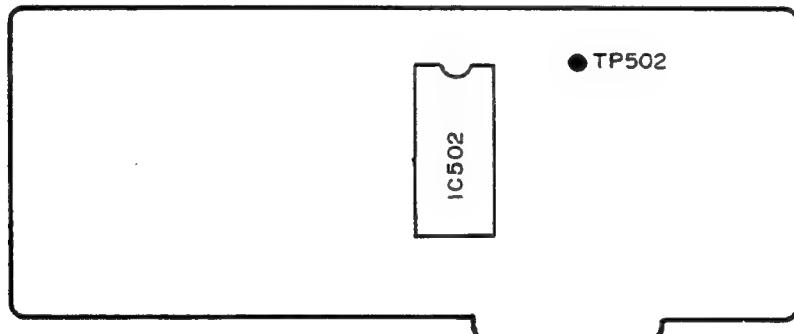
No.	Item	Check-point	Adjustment Parts	Signal & Mode	Adjustment & Confirmation
1	Video switching point	TP610 (RF SW PLS) TP1 [on jack terminal] (VIDEO OUTPUT)	VR601 (PG1 DL) VR602 (PG2 DL)	MH-2 P.B.	<p>1. Connect an oscilloscope to TP610 and TP1. 2. Play back the alignment tape specified at left, watch the monitor screen, and adjust the tracking VR to the best tracking condition. 3. Adjust VR601 and VR602 so that the phase relationship of RF SW PLS with the reproduced video signals will be as shown below.</p> 
2	Tracking SUB VR	TP610 (RF SW PLS) TP603 (PB CTL PLS)	VR603 (TRACKING SUB)	MH-2 P.B.	<p>1. Connect an oscilloscope to TP601 and TP603. 2. Press the tracking pushbutton to the center click position. 3. Play pack MH-2, and adjust VR603 until the waveform has the phase relationship shown below. (Triggering TP610 causes the waveform at TP603 to fluctuate. Adjust to the center of the wave.)</p> 

No.	Item	Check-point	Adjustment Parts	Signal & Mode	Adjustment & Confirmation
3	Slow SUB tracking VR	TP611 (1/3 RF RESET PLS) TP603 (PB CTL PLS)	VR604 (TR SUB SLOW)	MH-2 P.B.	<p>1. Connect TP611 and TP603 to an oscilloscope. 2. Press the tracking pushbutton to the center click position. 3. Play back MH-2, and adjust VR604 until the waveform has the phase relationship shown below.</p> 
4	Drum lock phase (REC TIMING)	TP610 (RF SW PLS) TP1 [on jack terminal] (VIDEO OUTPUT)	Check	<ul style="list-style-type: none"> Color bar Standard REC mode 	<p>1. Connect an oscilloscope to TP610 and TP1. 2. Select the standard REC mode, and check the waveforms at TP610 and TP1 that their phase relationship is as shown below.</p> <p>Note: If a damaged tape is played back, the lock phase will show much deviation during an operation check. If tape damage is slight, check that the center of lock phase deviation meets the relationship shown below.</p> 



SERVO

* This circuit board is viewed from component side.

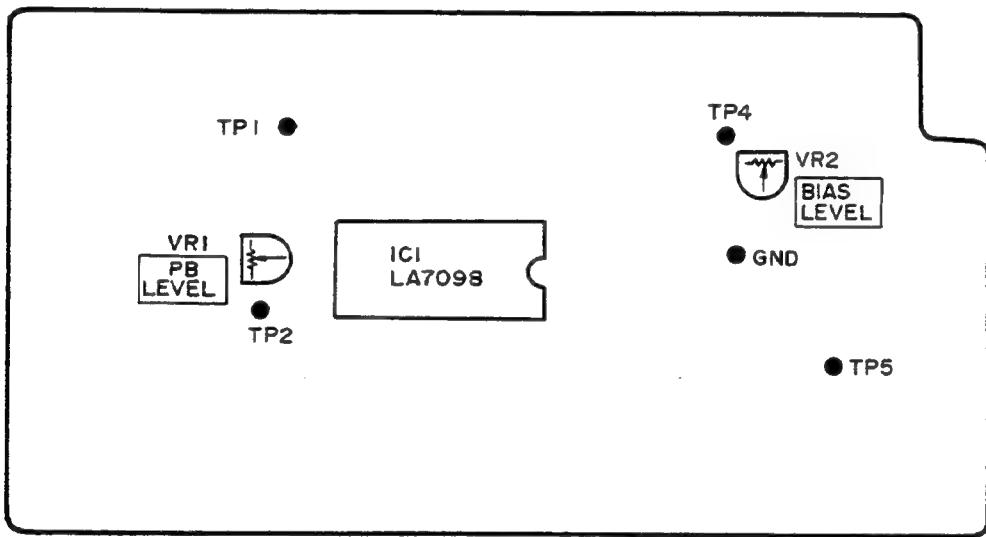


PREAMP

* This circuit board is viewed from component side.

4-3. AUDIO CIRCUIT (AUDIO board)

No.	Item	Check-point	Adjustment Parts	Signal & Mode	Description and Waveform
1	PB Level	AUDIO Output Terminal	VR1 (P.B LEVEL) of AUDIO board	● Alignment Tape MH-2 ● Play Back	Adjust VR1 so that the output level of the AUDIO output terminal is set to -8 ± 1 dBs. (Oscilloscope display: 0.87 ± 0.10 Vp-p.)
2	Head Bias	AUDIO board TP4, GND	VR2 (BIAS LEVEL)	● No signal is input ● SP (2H) REC mode	Adjust VR2 so that the voltage between TP4 \oplus and GND terminal \ominus (displayed on the AC millivoltmeter) of the AUDIO board is set to 110 ± 10 mVrms.



AUDIO

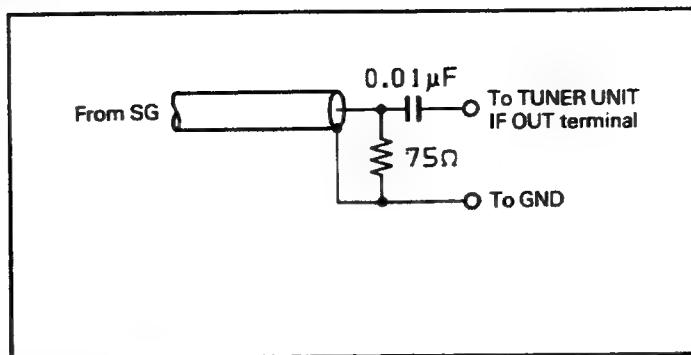
* This circuit board is viewed from component side.

4-4. TUNER/IF CIRCUIT

1 AFT transformer adjustments

- (1) Connect the 38.9 MHz, 80 dB μ unmodulated signal to the IF output terminal of the Tuner Unit, by using the input pad shown below.

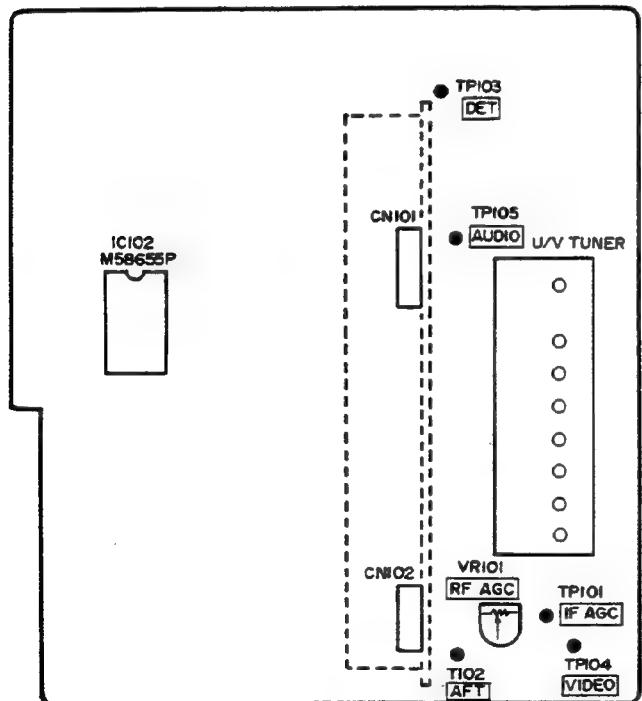
Note that no signal is being input to the ANT IN terminal at this time.



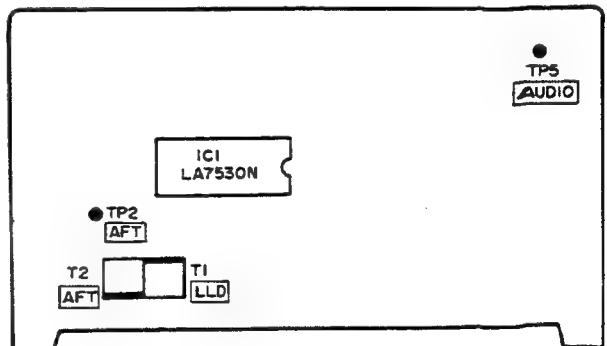
- (2) Connect an oscilloscope to TP102 (AFT).
- (3) Slowly turn T2 (AFT Transformer) to adjust the output voltage of TP102 to 5.0 ± 0.5 VDC at the point where the voltage suddenly fluctuates. (Do not adjust the voltage to 6.0 VDC.)

2 RF AGC adjustments

- (1) Input a 58 dB μ RF signal (channel E7) to the ANT IN terminal.
- (2) Connect a digital voltmeter to AGC terminal of the TUNER UNIT, and adjust VR101 (RF AGC) so that the voltage at the AGC terminal is set to 6.5 ± 0.5 VDC.



TUNER

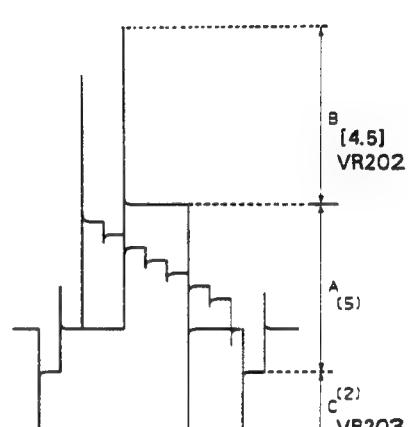
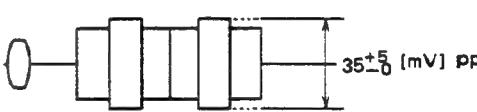


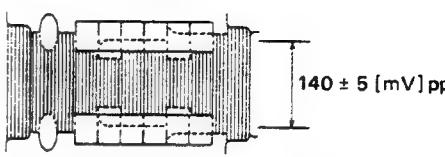
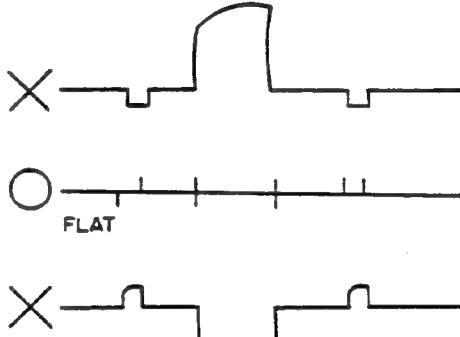
IF

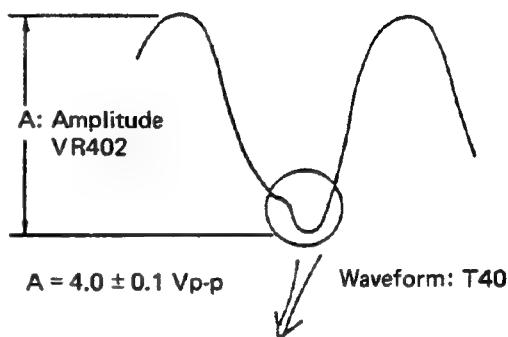
* This circuit board is viewed from component side.

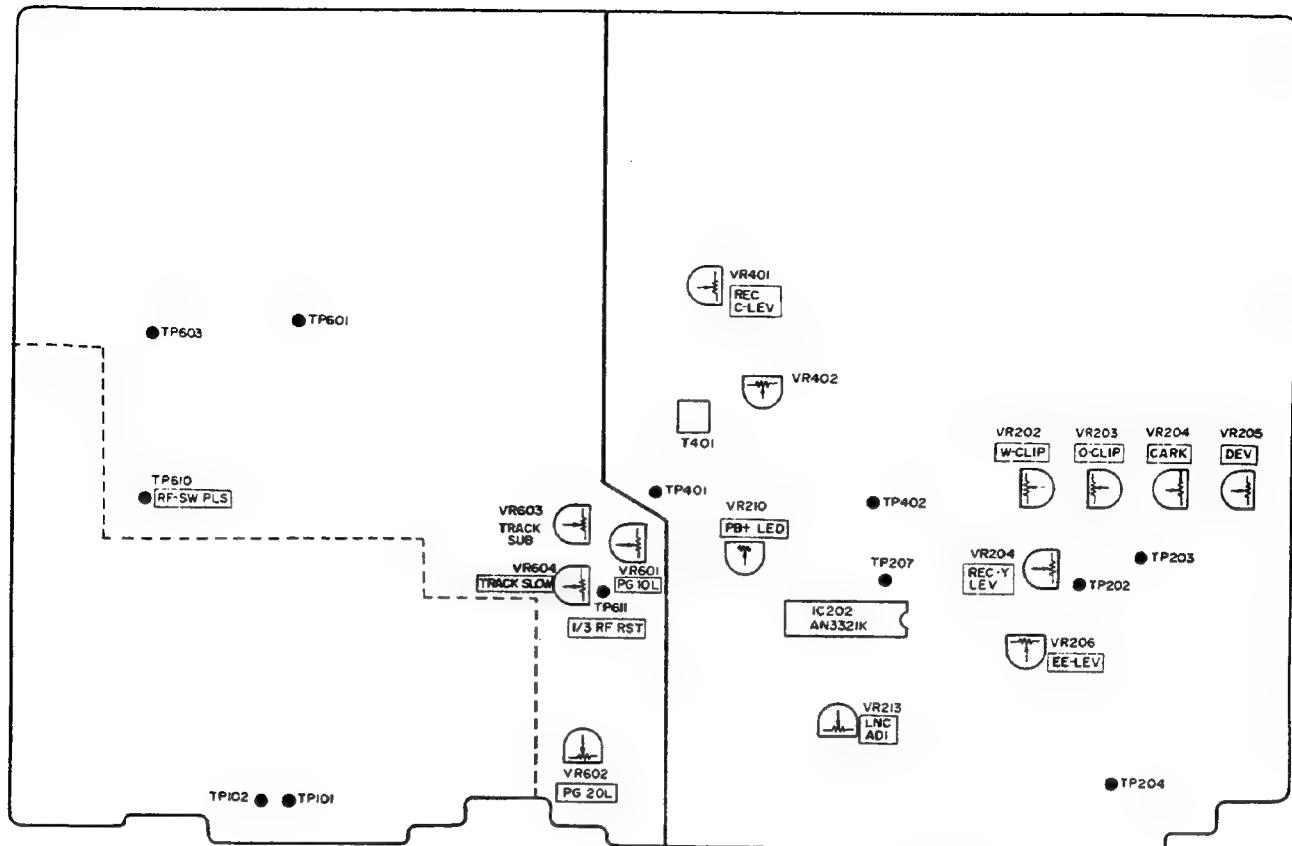
4-5. VIDEO CIRCUIT (S/S/V voard)

No.	Item	Check-point	Adjustment Parts	Signal & Mode	Description and Waveform
1	EE Level	TP901 (Trigger: TP204) of JACK TER- MINAL board	VR206	Input (VIDEO IN): Color Bar STOP	<p>1. Input a color bar signal to VIDEO IN.</p> <p>2. Connect an oscilloscope to TP901. (Terminate VIDEO OUT with 75-ohm impedance.)</p> <p>3. Adjust VR206 (EE) so that signal issued from sync tip to white peak is set to 1.0 ± 0.1 Vp-p.</p>
2	Carrier Deviation	TP202 TP901 (Trigger: TP204)	VR204 VR210 VR205	REC MH-2	<p>1. Set the SELECT switch to the LINE position without anything connected to the VIDEO IN terminal.</p> <p>2. Connect the frequency counter to TP202.</p> <p>3. Adjust VR204 (CARRIER) so that the frequency is set to $3.85^{+0.05}_{-0.0}$ MHz.</p> <p>4. Play back the color bar section of MH-2, and connect an oscilloscope to TP901.</p> <p>5. Adjust VR210 so that the amplitude of the playback color bar signal is set to $1.0V \pm 0.05$ Vp-p.</p> <p>6. Input the color bar signal to the VIDEO IN terminal and record it. Then play this signal back. Connect an oscilloscope to TP901 to measure the amplitude of the playback color bar signal.</p> <p>a) When the measured value is within 1.0 ± 0.1 Vp-p, proceed to the following item.</p> <p>b) When the measured value is not in the 1.0 ± 0.1 Vp-p range, adjust according to procedure 7.</p> <p>7. Set the unit into the STOP mode:</p> <p>a) When the measured value is less than 0.9 Vp-p, rotate VR205 (DEV) counterclockwise by approx. 10 degrees while observing the PC board from the component surface. (Note: When VR205 is rotated counterclockwise while observing the board from the component surface, the amplitude of the recording signal is increased. When it is rotated clockwise, the amplitude of the recording signal is decreased.)</p> <p>Then record the color bar signal and play it back to confirm that the amplitude is within 1.0 ± 0.1 Vp-p. If the amplitude does not satisfy this range, repeat this procedure as required. If the amplitude is too large, rotate VR205 clockwise and confirm through recording and playback.</p> <p>b) When the measured value exceeds 1.1 Vp-p, rotate VR205 (DEV) clockwise by approx. 10 degrees while observing the board from the component surface. Then record the color bar signal and play it back to confirm that the amplitude is within 1.0 ± 0.1 Vp-p. If the amplitude is too small, adjust VR205 in the same manner as noted in Item a). If the amplitude is too large, repeat this procedure as required.</p>

No.	Item	Check-point	Adjustment Parts	Signal & Mode	Description and Waveform
3	White Clip Dark Clip	TP203 (Trigger: TP204)	VR202 (White Clip), VR203 (Dark Clip)	Color Bar, REC	<p>1. Input the color bar signal to the VIDEO IN terminal.</p> <p>2. Connect an oscilloscope to TP203 of the S/S/V board, and adjust the amplitude CAL knob of the oscilloscope so that the distance between sync tip and white peak of the waveform reads 5 scales.</p> <p>3. Adjust VR202 (WHITE) and VR203 (DARK) so that the waveform overshoot and undershoot satisfy the ratio shown below.</p>  <p style="text-align: center;">$A : B : C = 4.5 : 5 : 2$</p>
4	REC Color Level Ad- justment	TP501 (Trigger: TP204) of AMP board	VR401	Color Bar REC	<p>1. Input the color bar signal to the VIDEO IN terminal.</p> <p>2. Connect an oscilloscope to TP501.</p> <p>3. Rotate VR201 to minimize the FM signal.</p> <p>4. Adjust VR401 so that the amplitude of color bar signal RED section is set to 35 ± 5 mV.</p> <p>Note: Be sure to make the adjustment noted in Item 6 after this adjustment.</p> 

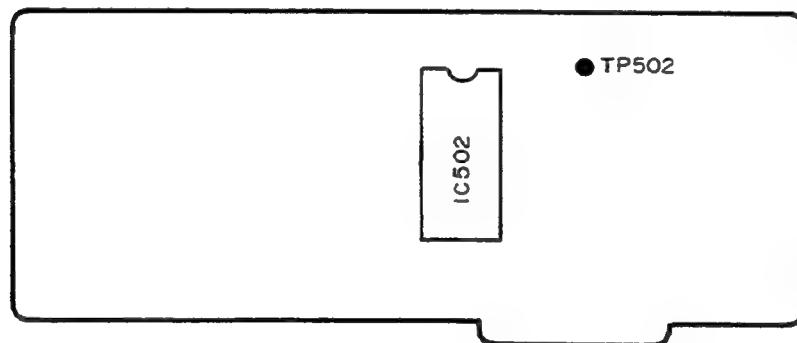
No.	Item	Check-point	Adjustment Parts	Signal & Mode	Description and Waveform
5	REC Y FM Level Adjustment	TP501 (Trigger: TP204) (PRE AMP board)	VR201	Color Bar, REC	<p>1. After making the adjustment in Item 5, adjust VR201 so that the amplitude of white peak section is set to 140 ± 5 mV.</p> 
6	Noise Cancel Level Adjustment	TP207 (Trigger TP204) of S/S/V board	VR213 of S/S/V board	PB	<p>Play back the tape prerecorded and adjust VR213 so that TP207 waveforms of the S/S/V board are flat. At this time, waveform difference should be less than 20 mVpp.</p> 

No.	Item	Check-point	Adjustment Parts	Signal & Mode	Adjustment & Confirmation
7	SECAM DET. sync amplifier oscillating level	TP401	VR402 T401	Input: SECAM color bar signal REC	<p>1. Input a SECAM color bar signal to VIDEO IN. 2. Connect an oscilloscope (10:1) to TP401. 3. Adjust VR402 until the waveform at TP401 appears as shown below in MESECAM mode. (If the waveform appears otherwise, adjust T401.)</p>  <p>NG OK NG</p> <p>fh/2 adjustment</p>
8		TP401		MESECAM self recording playback	<p>1. Record SECAM color bar signals in SECAM mode and play back. 2. Connect an oscilloscope (10:1) to TP401. Check that the waveform has an amplitude (A) of 4.0 ± 0.2 Vp-p.</p>



VIDEO

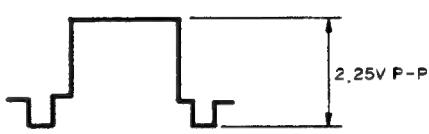
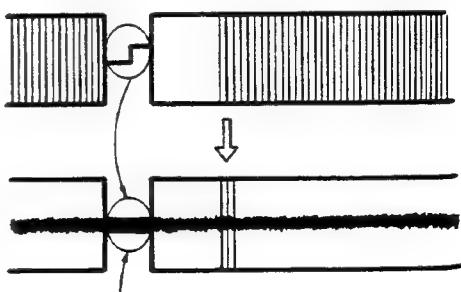
* This circuit board is viewed from component side.

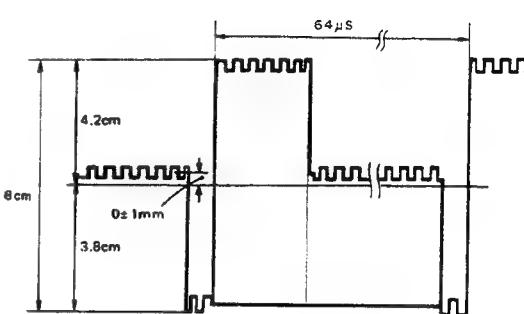


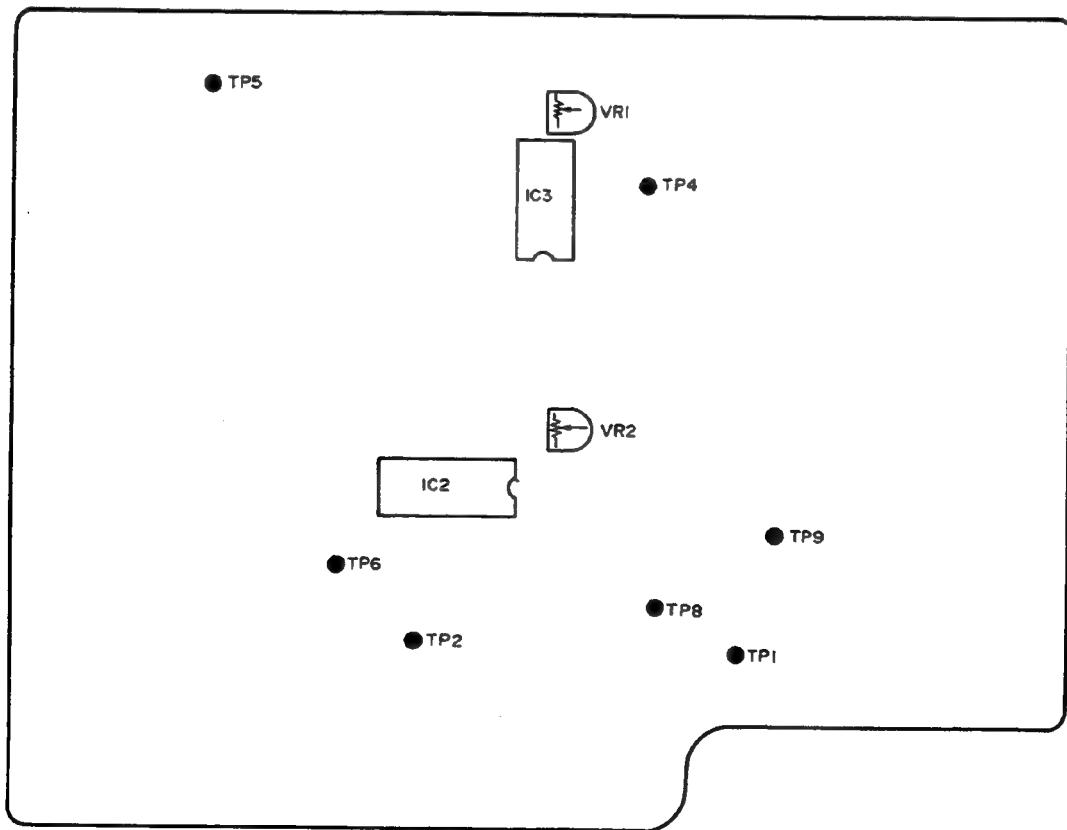
PREAMP

* This circuit board is viewed from component side.

4-6. DIGITAL

No.	Item	Check-point	Adjusting Parts	Mode/Condition	Adjustment and Confirmation
1	D/A LEVEL	TP8	VR1 (D/A LEVEL)	SLOW mode	<p>1. Play back a tape on which color bar signals are recorded.</p> <p>2. Check that the output at TP201 on the S/S/V board is 2 Vp-p, select the SLOW mode, and turn VR3 until the white peak of the waveform at TP8 begins to be clipped.</p> <p>3. Turn VR1 (D/A LEVEL) until the peak-to-peak value of the clipped waveform at TP8 is 2.25 Vp-p.</p> 
2	A/D LEVEL	TP8	VR3 (A/D LEVEL)	SLOW mode	Play back the tape in the SLOW mode, and adjust VR3 (A/D LEVEL) so that the color bar signal at TP8 is 2 Vp-p.
3	DA LEVEL	TP2	VR1 (D/A LEVEL)	PB DNR ON (Use color bar tape.)	<p>Play back the tape in the normal mode (with the NR switch ON DNR II mode), and adjust VR1 (D/A LEVEL) until the video signals at TP2 are at the minimum level. (V rate)</p>  <p>Adjust V sync signal to be at the same level.</p>

No.	Item	Check-point	Adjusting Parts	Mode/Condition	Adjustment and Confirmation
4	VCO	TP6 (PLL)	VR2 (VCO)	SLOW mode	<p>1. Play back the tape in the SLOW mode, turn the VARIABLE knob on the oscilloscope until the peak of the waveform at TP6 is at the 8th division of the oscilloscope scale.</p> <p>2. Turn VR2 (VCO) to adjust as shown below.</p> 



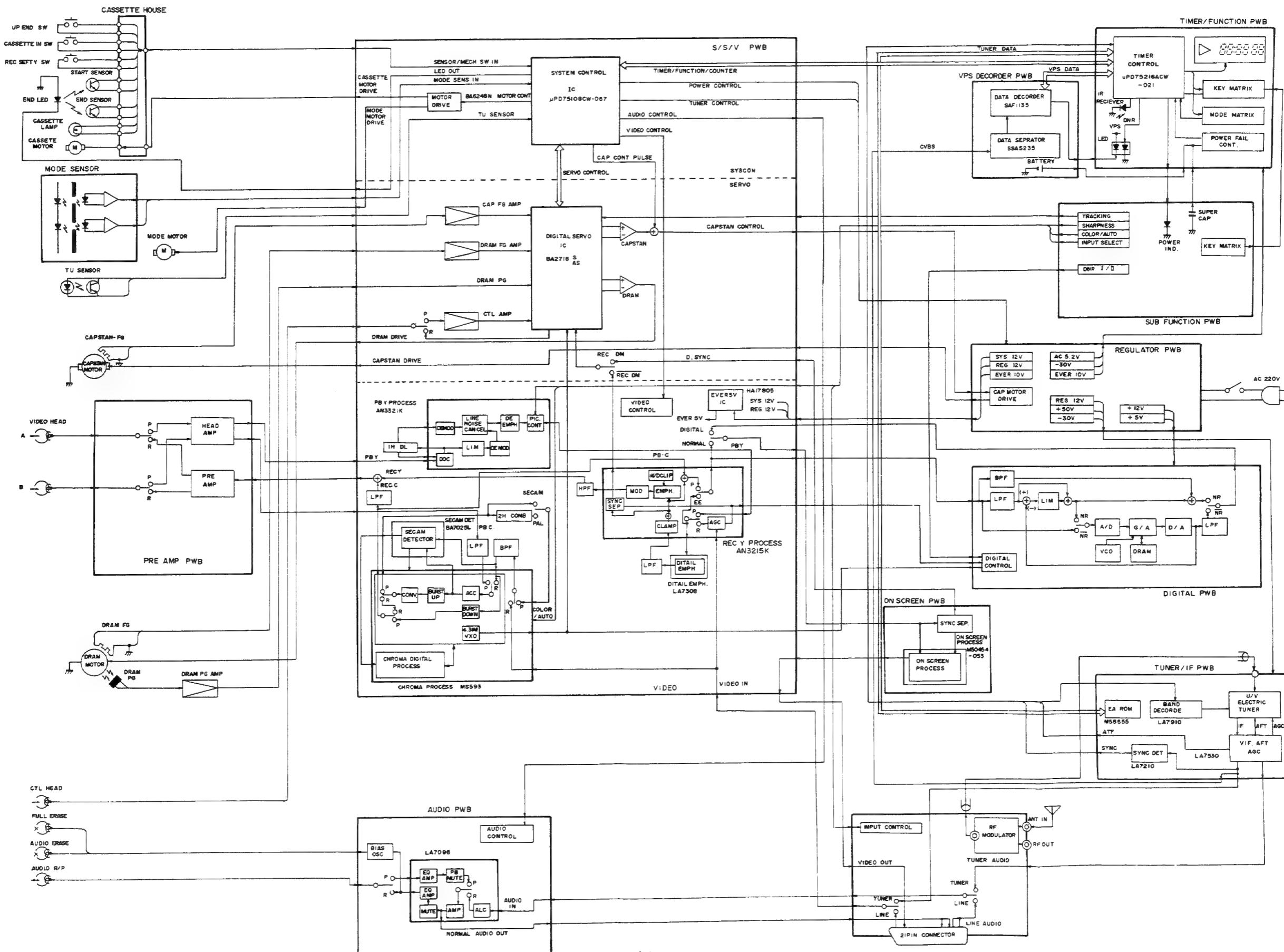
DIGITAL

* This circuit board is viewed from component side.

SECTION 4

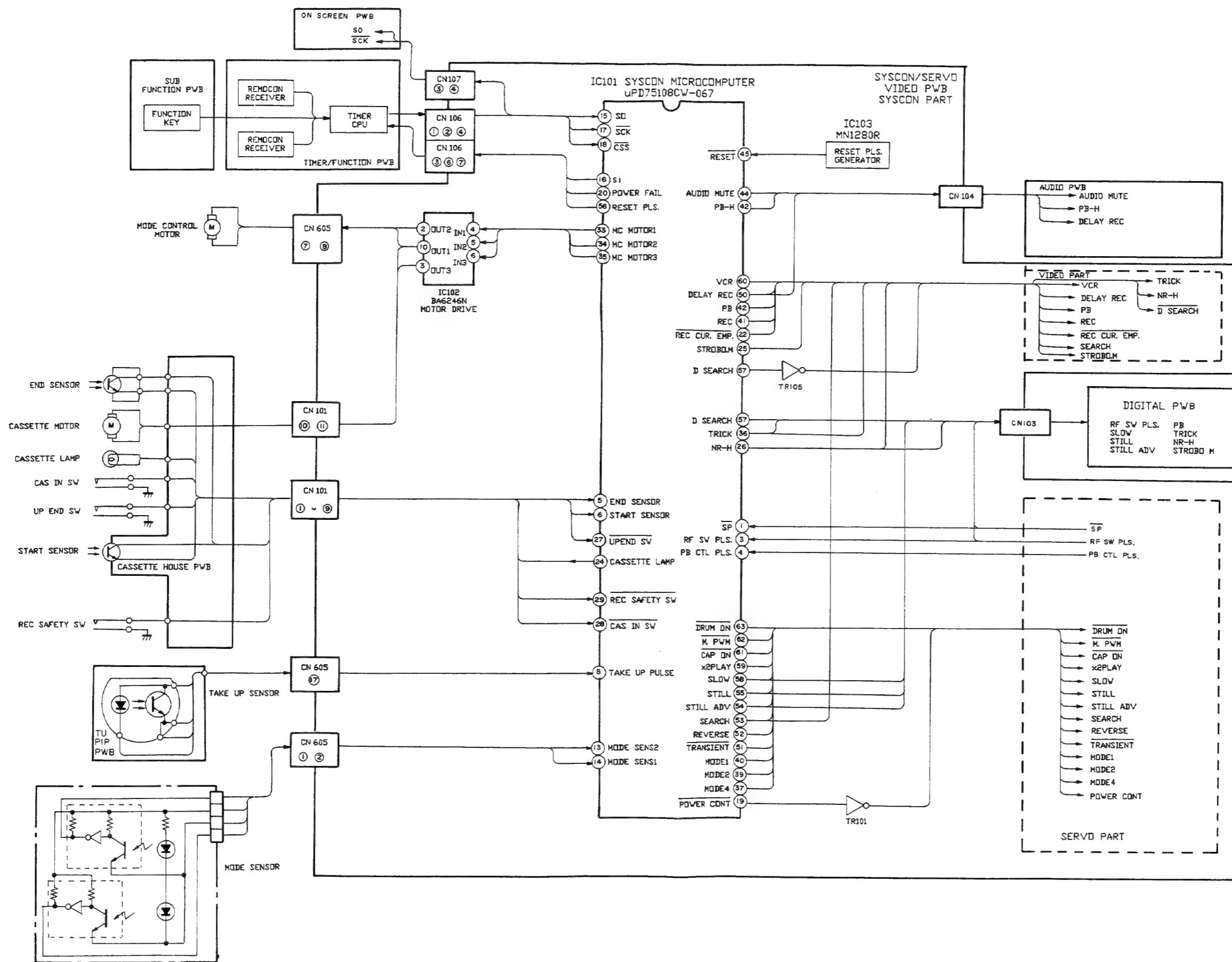
DIAGRAMS AND TIMING CHARTS

1. GENERAL BLOCK DIAGRAM

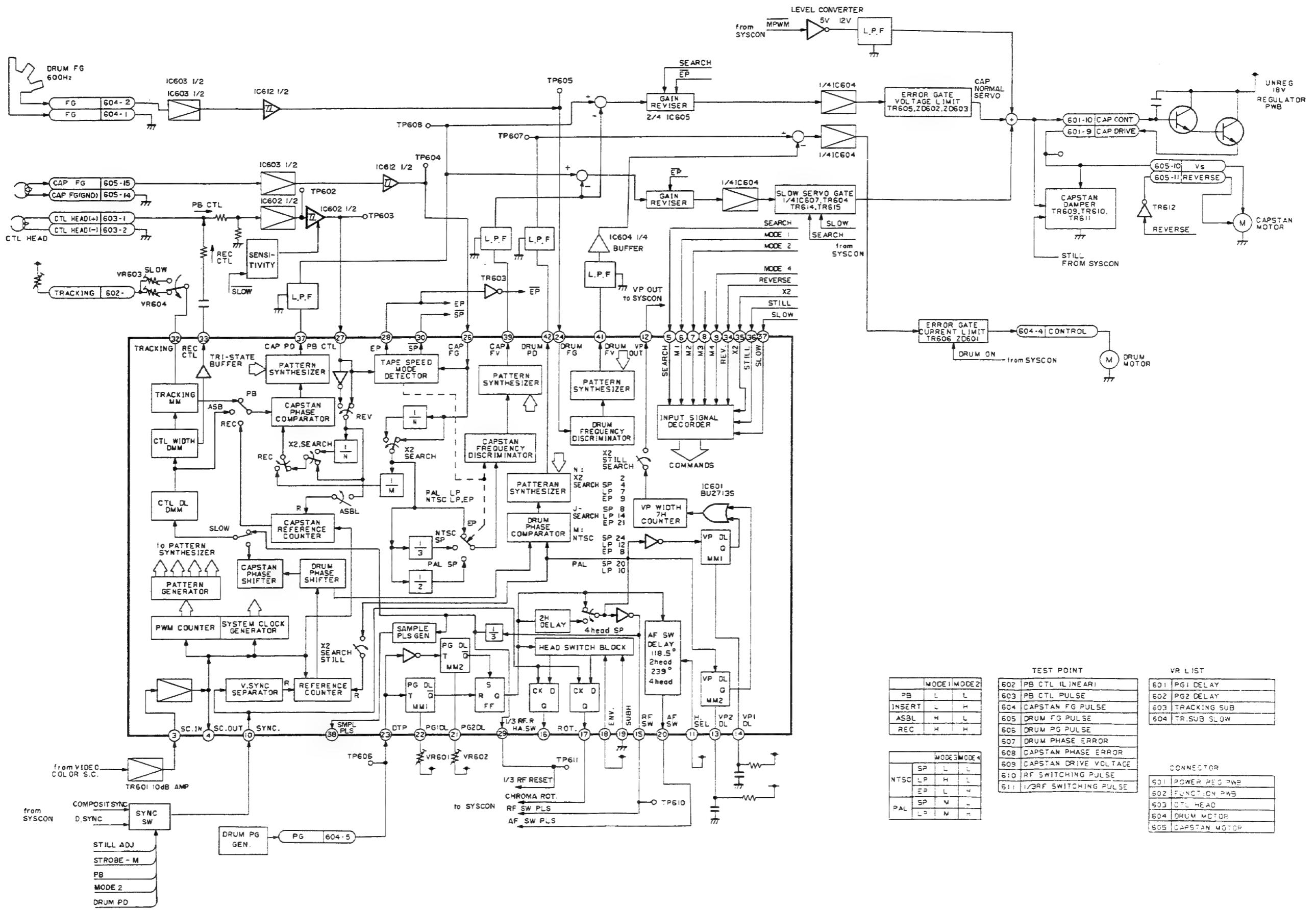


2. BLOCK DIAGRAM

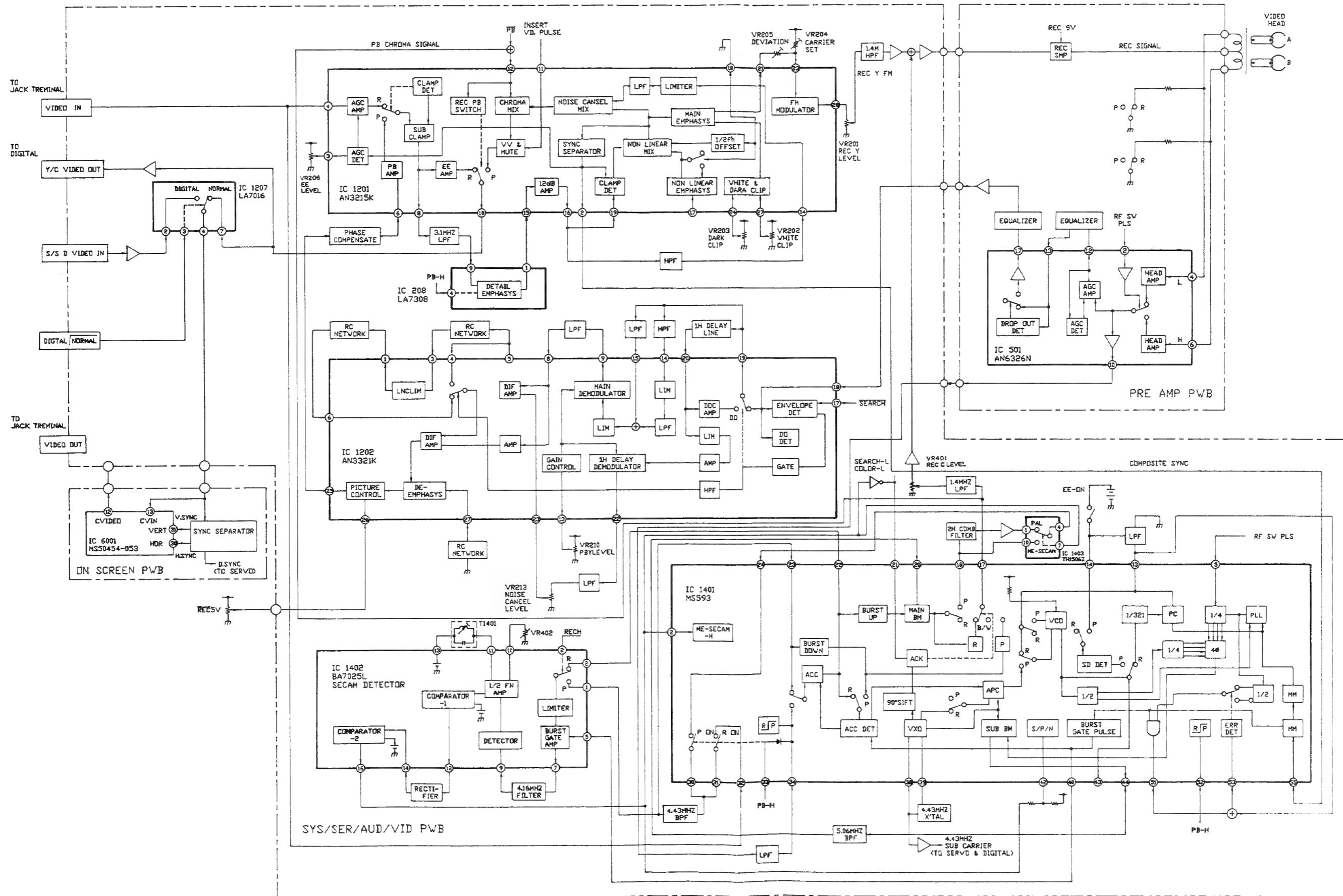
2-1. SYSTEM CONTROL BLOCK DIAGRAM



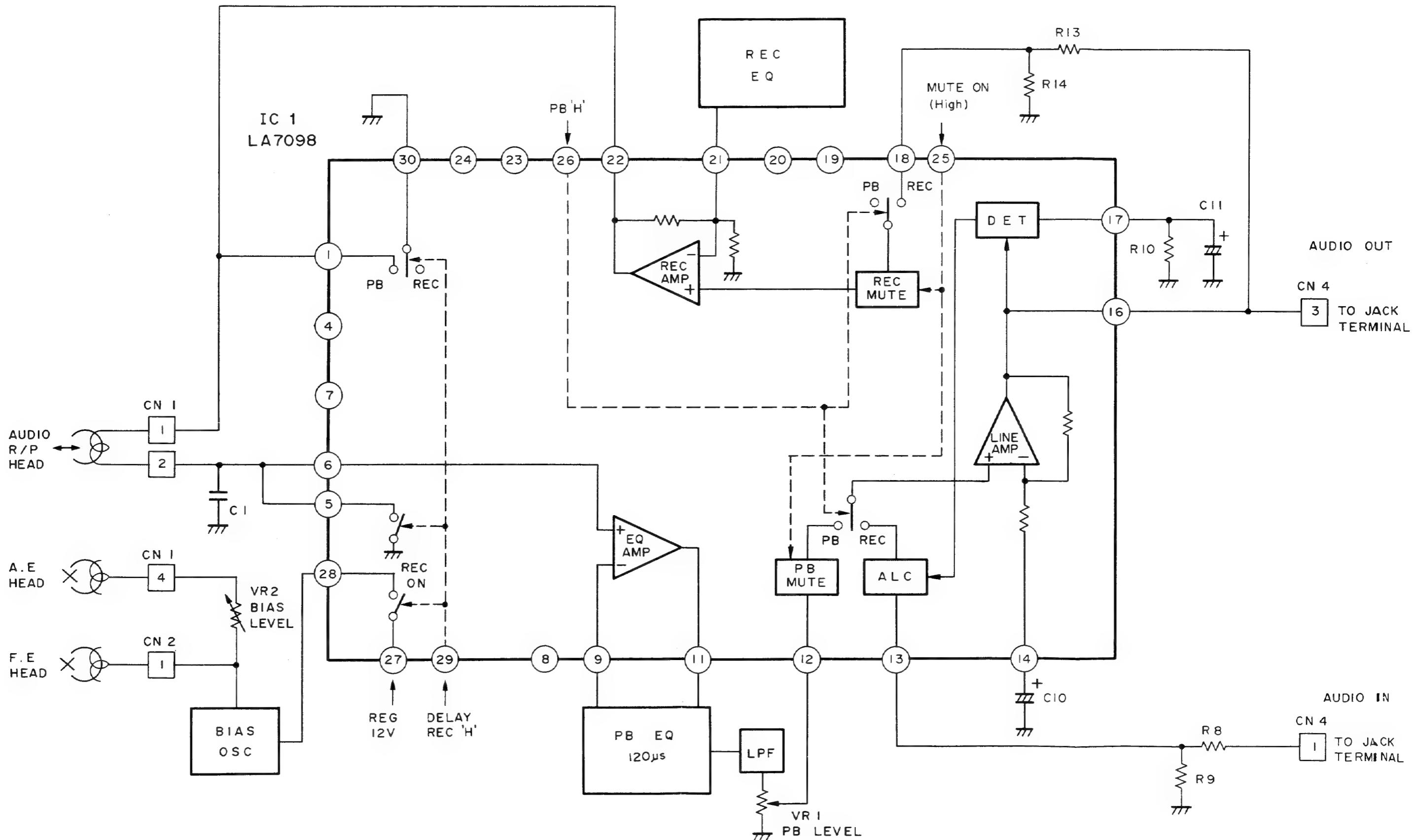
2-2. SERVO CONTROL BLOCK DIAGRAM



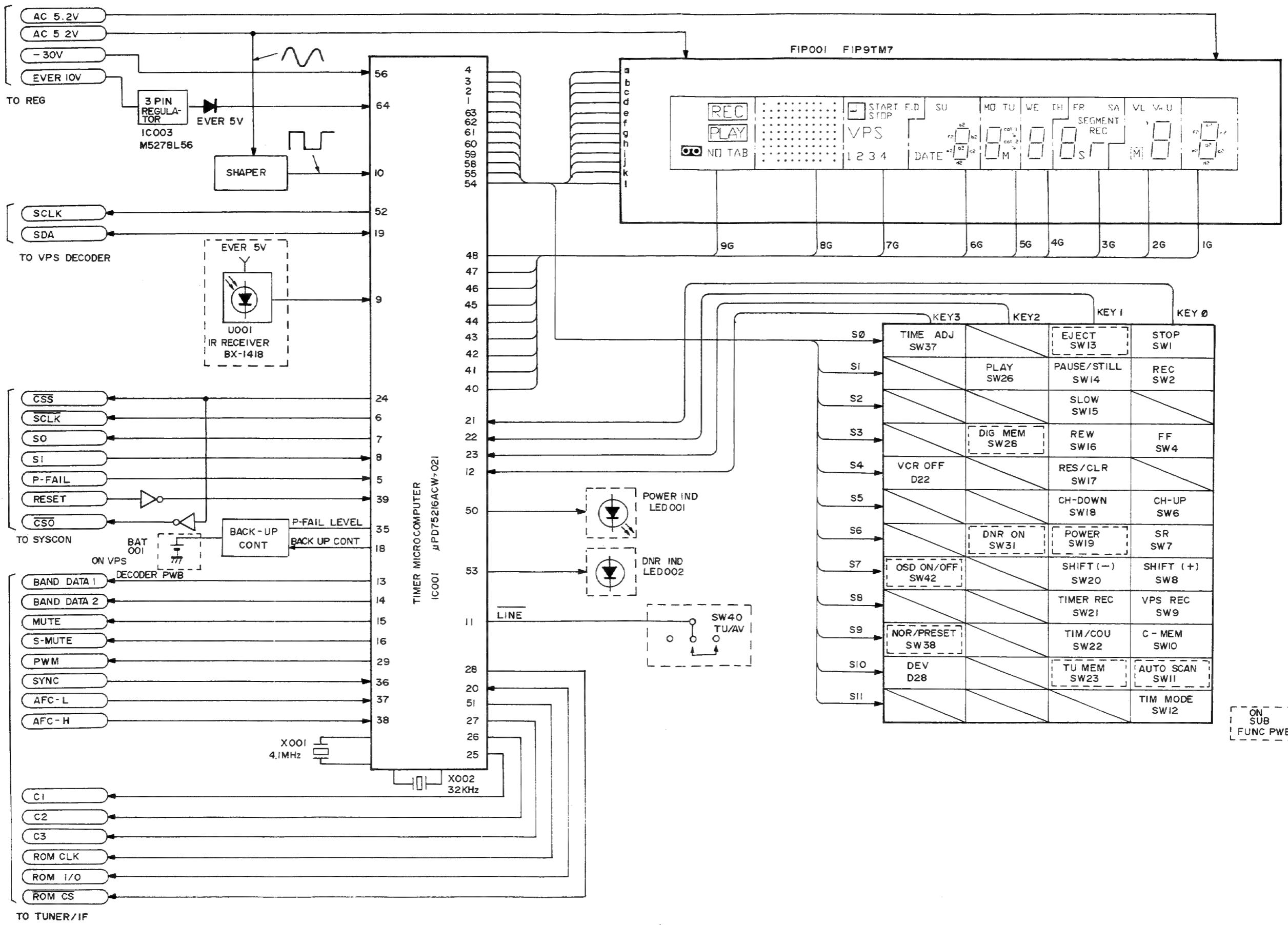
2-3. VIDEO/CHROMA BLOCK DIAGRAM



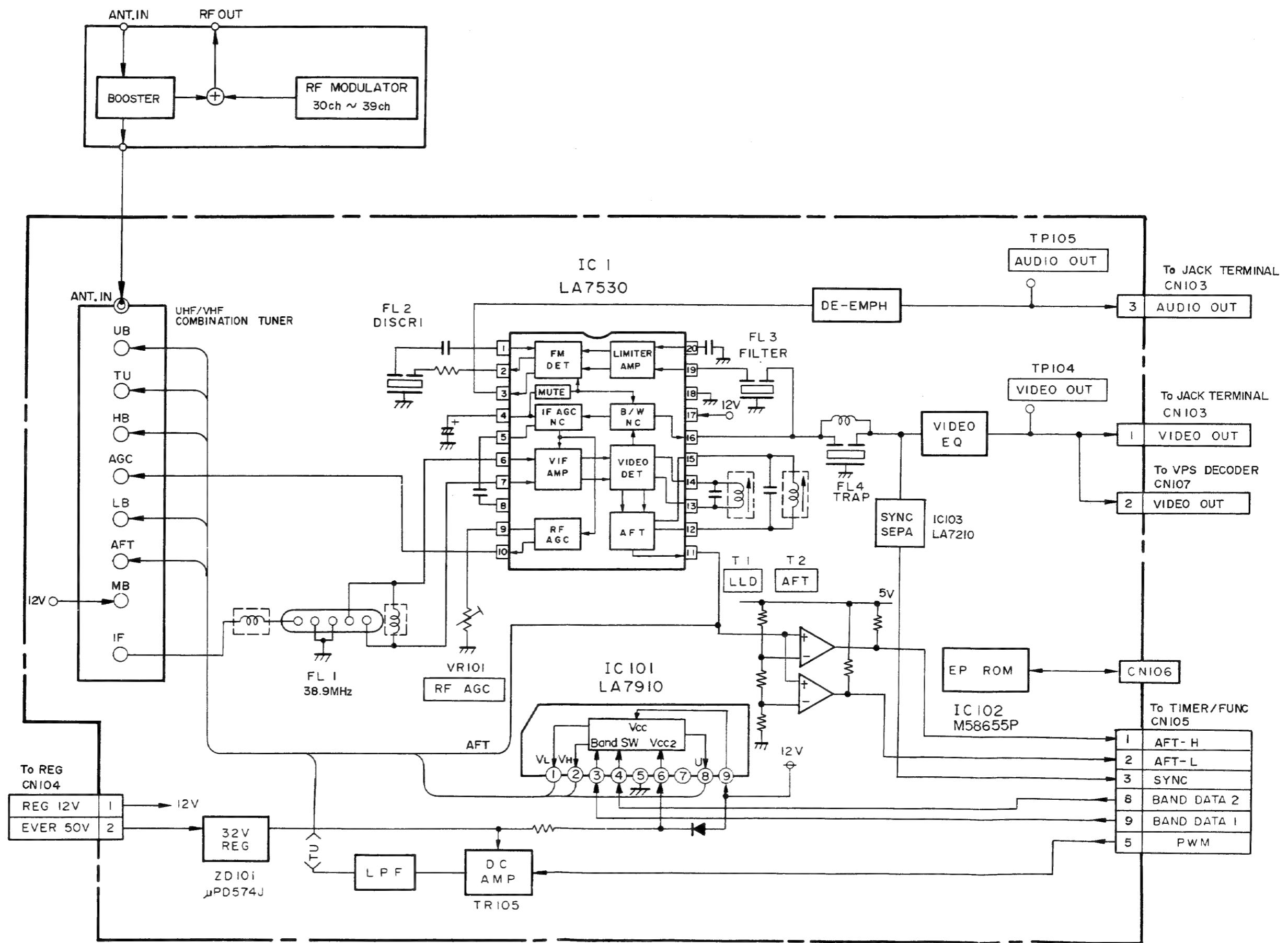
2-4. AUDIO BLOCK DIAGRAM



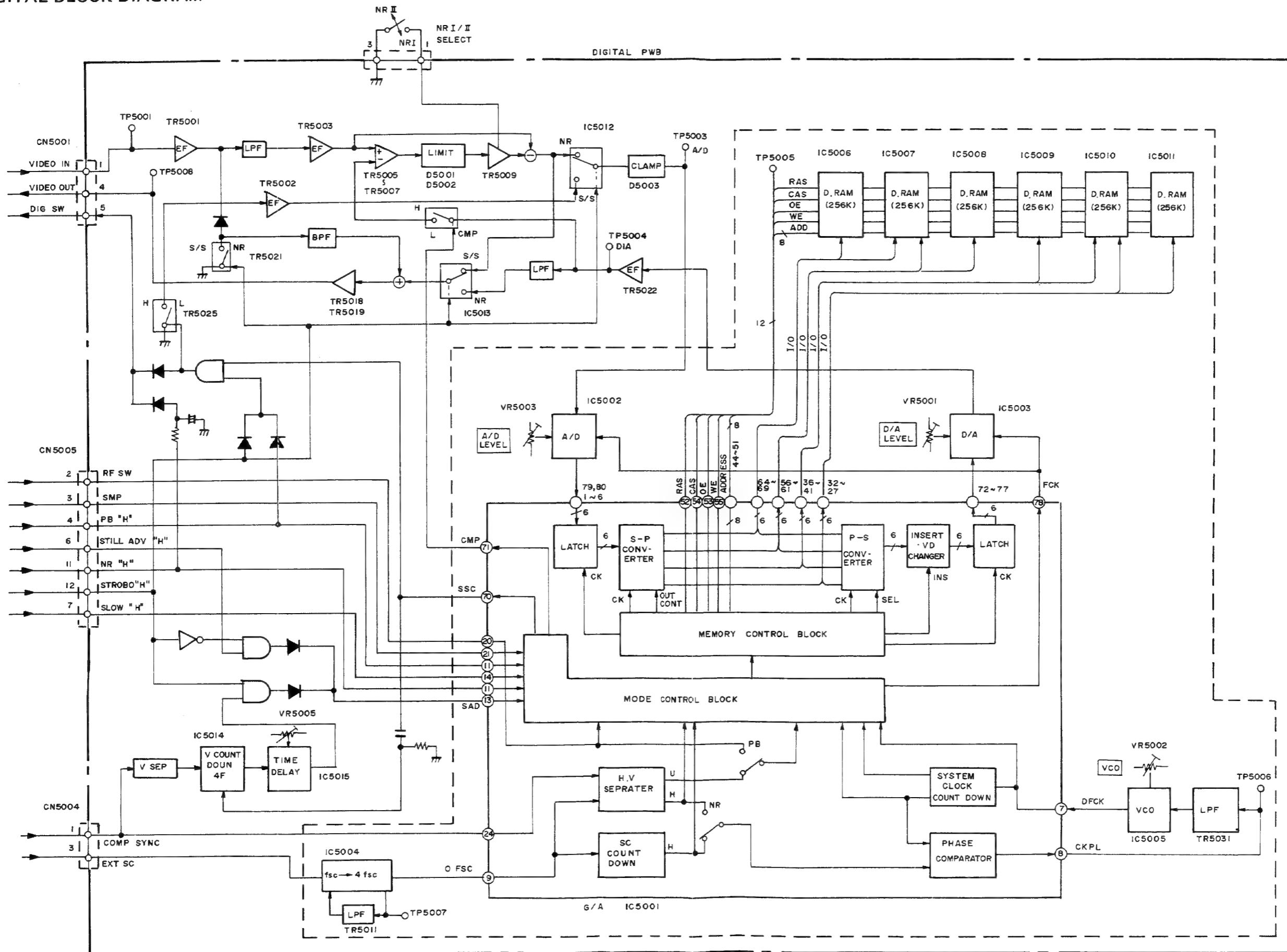
2-5. TIMER FUNCTION BLOCK DIAGRAM



2-6. TUNER/IF BLOCK DIAGRAM

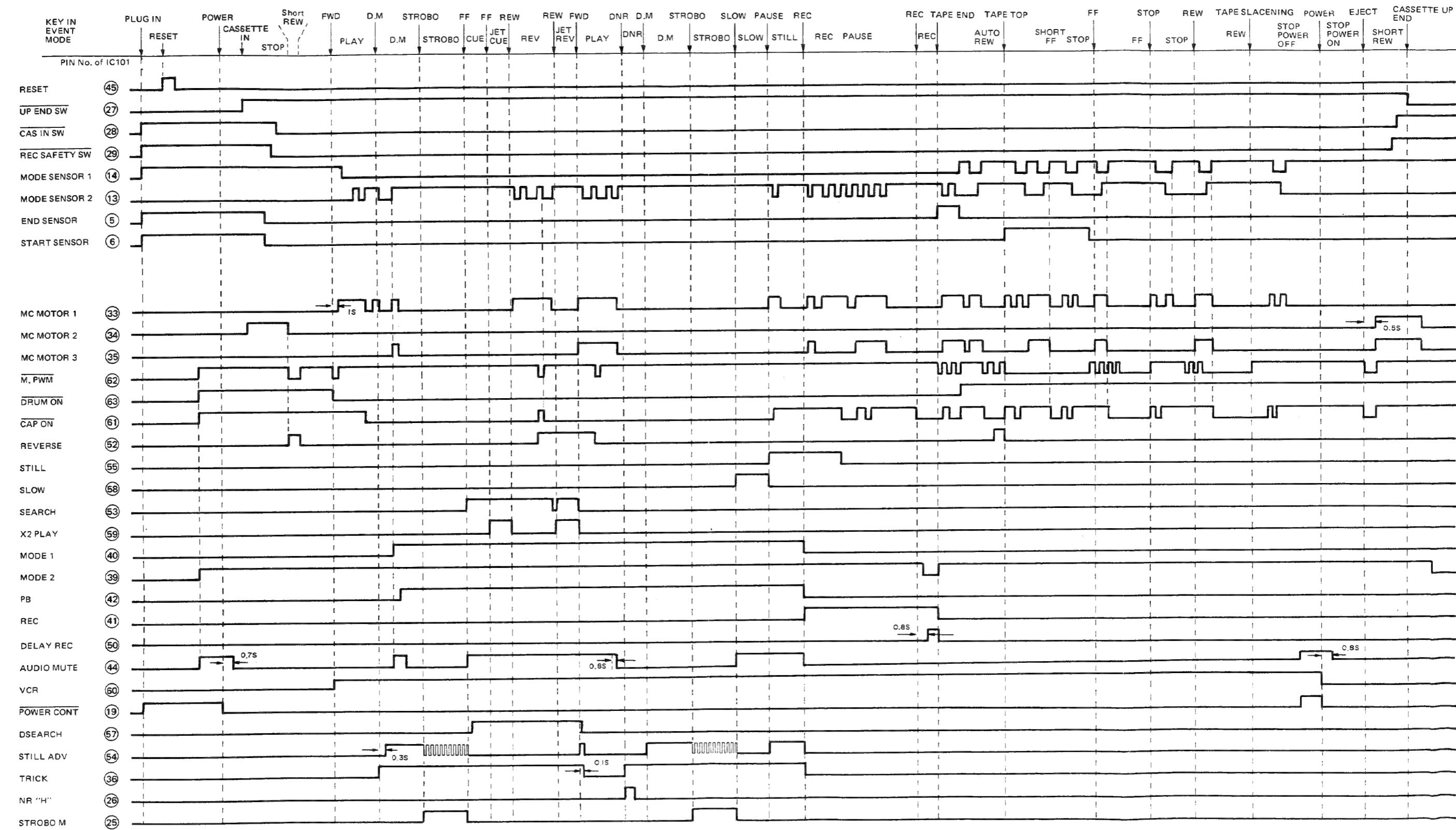


2-7. DIGITAL BLOCK DIAGRAM

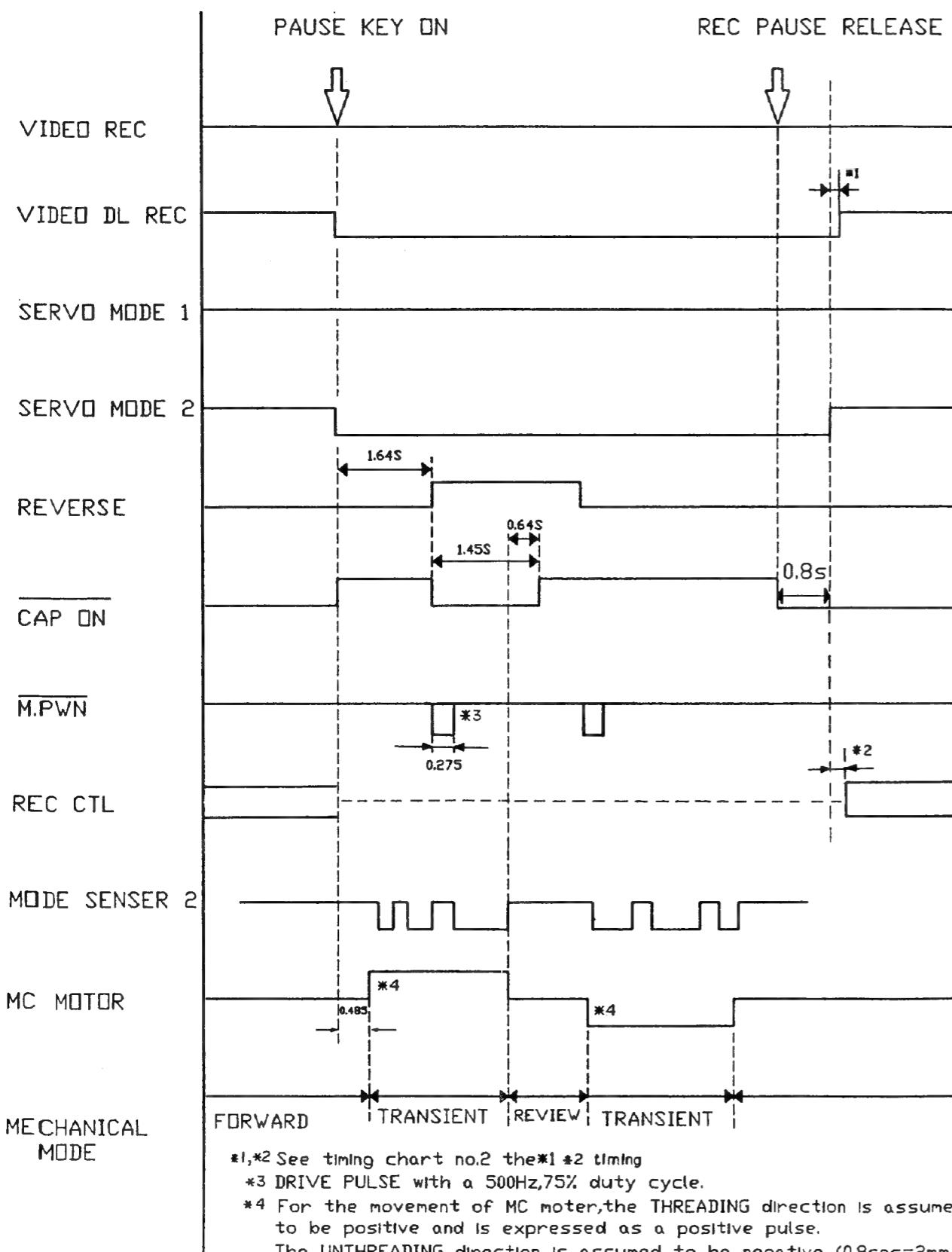


3. TIMING CHART

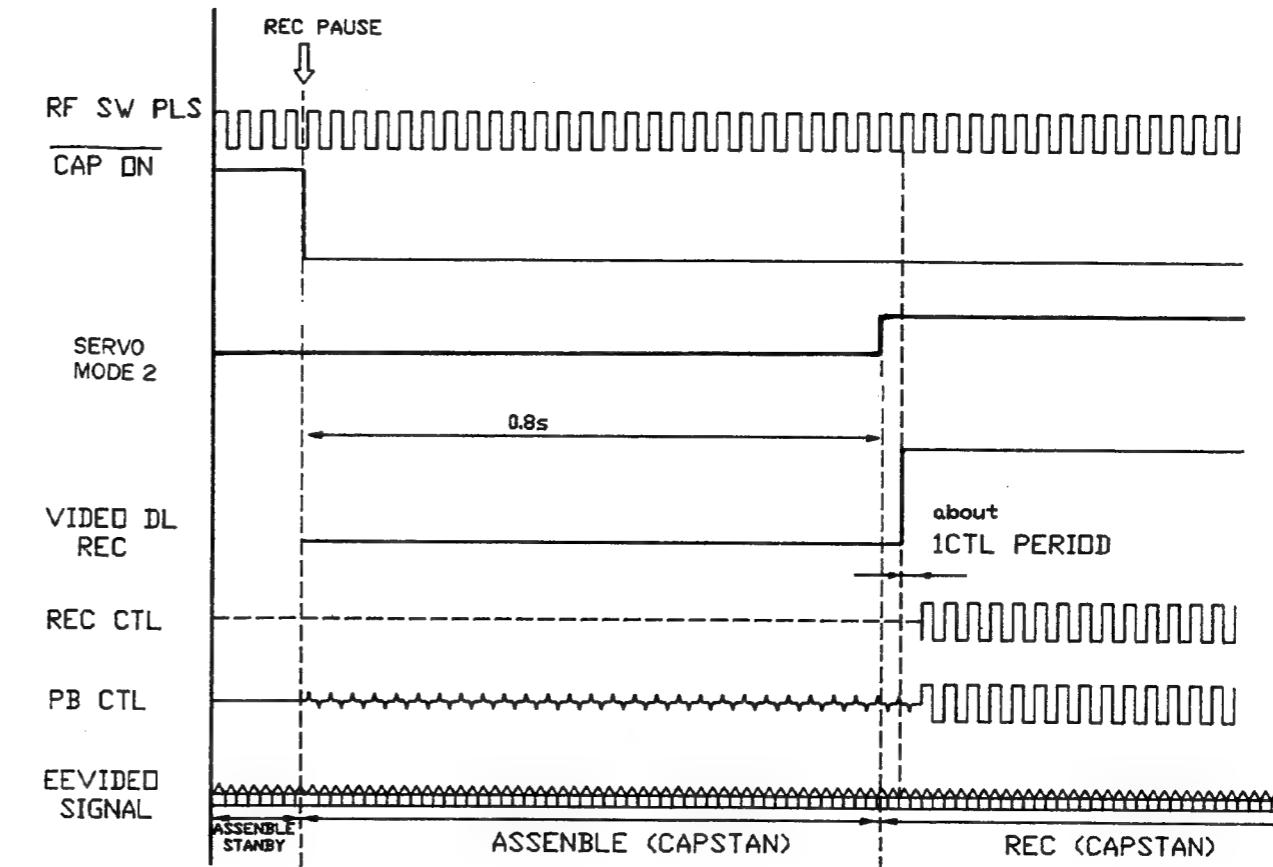
3-1. SYSTEM CONTROL TIMING CHART



3-2. ASSEMBLE RECORD TIMING CHART 1

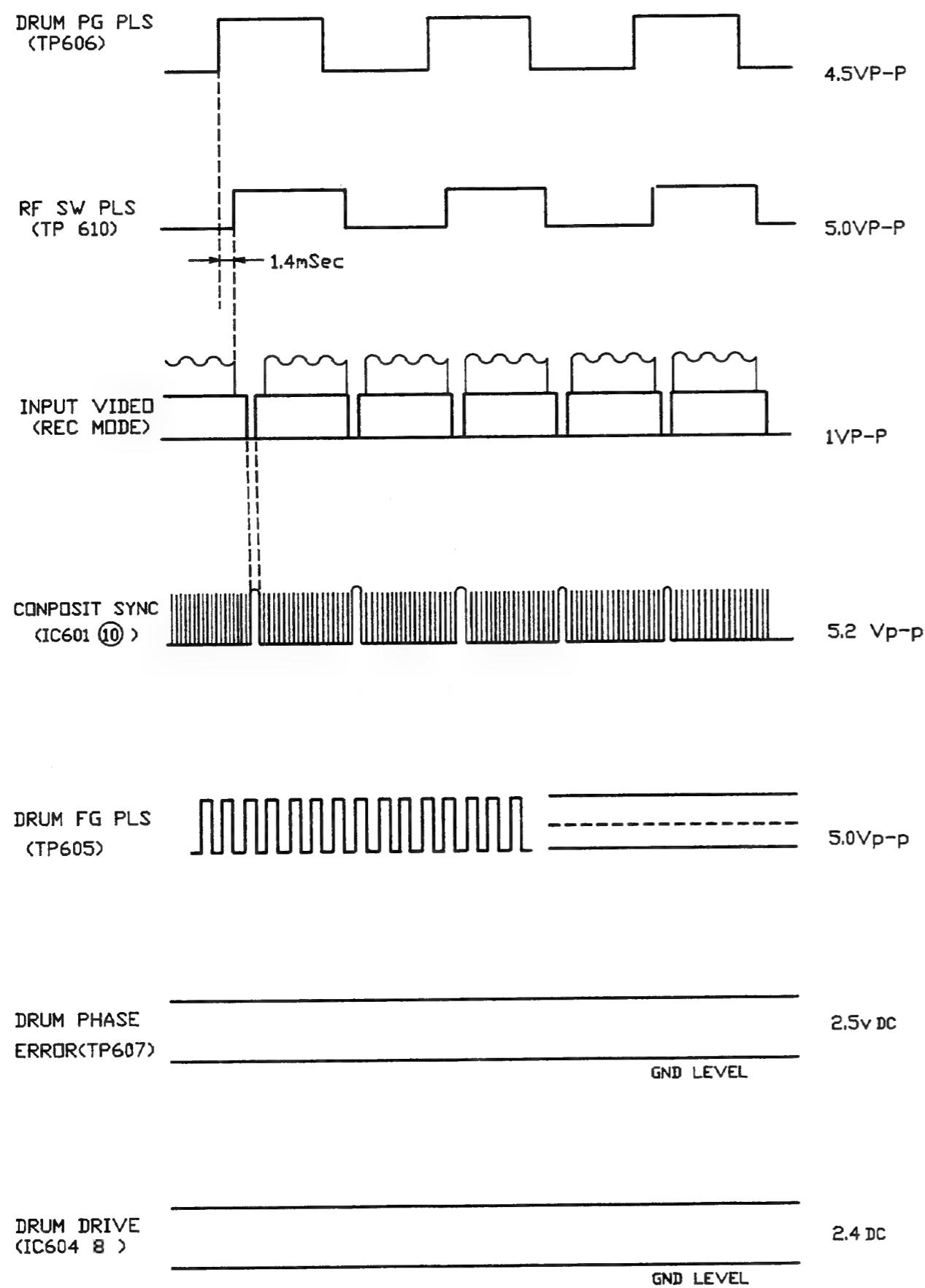


3-3. ASSEMBLE RECORD TIMING CHART 2

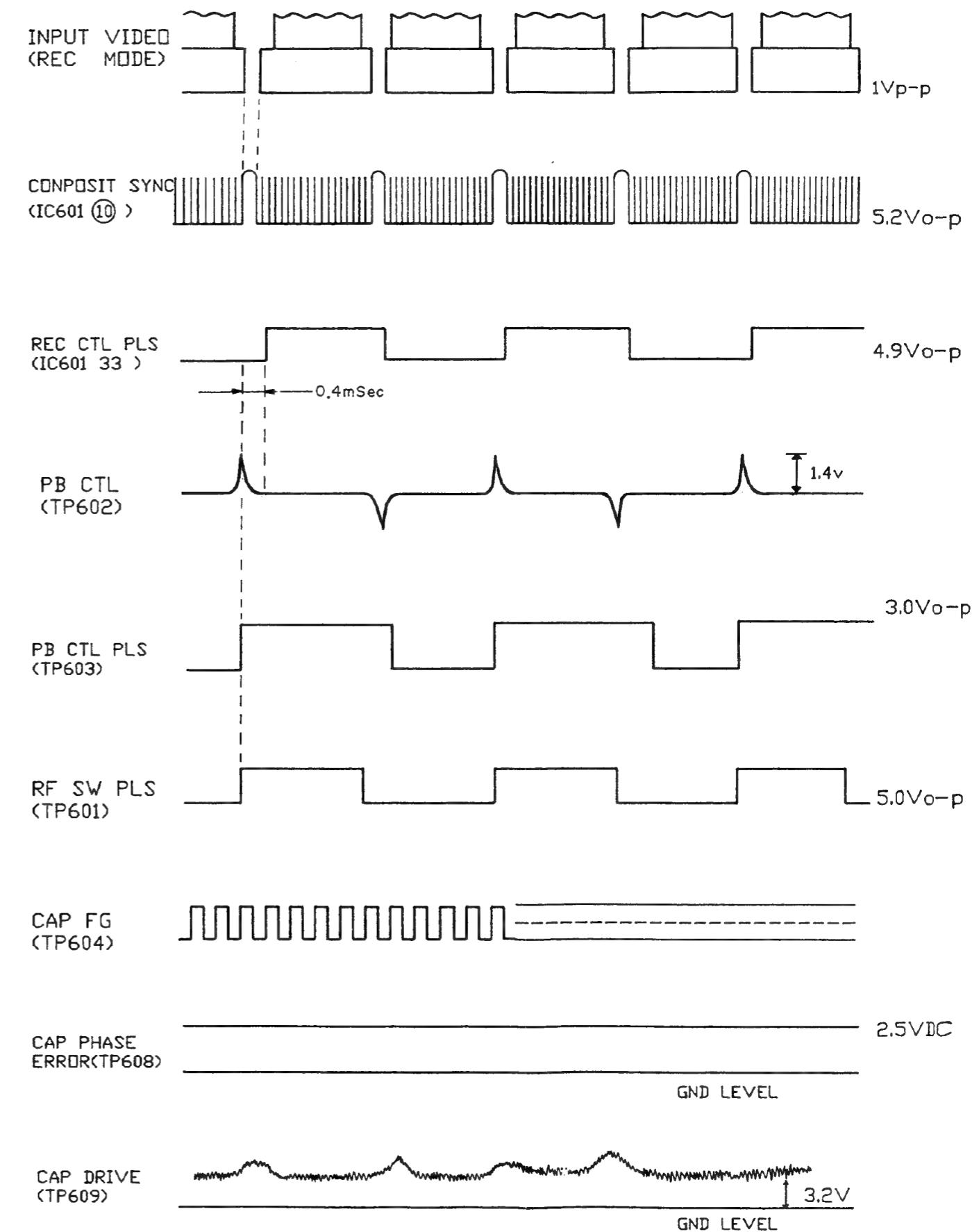


After the REC PURES. is released, CAP ON is set low. Then the CAPSTAN MOTOR starts rotating and the phase between REC CTL (VSYNC of the VIDEO SIGNAL) and PB CTL is matched. The connection operation is completed after about 0.8 second (about 24 frames) MODE 2 is set high and SERVO enters REC operation state. The first REC CTL pulse is not recorded, the pulse is recorded from the leading edge of the second CTL pulse. In addition, DL REC of the VIDEO is output synchronizing with the leading edge of RF SW PLS so that the joint part of VIDEO TRACK can be positioned within the vertical blanking. DL REC is a control signal for the REC AMP recording current.

3-4. DRUM SERVO TIMING CHART 1

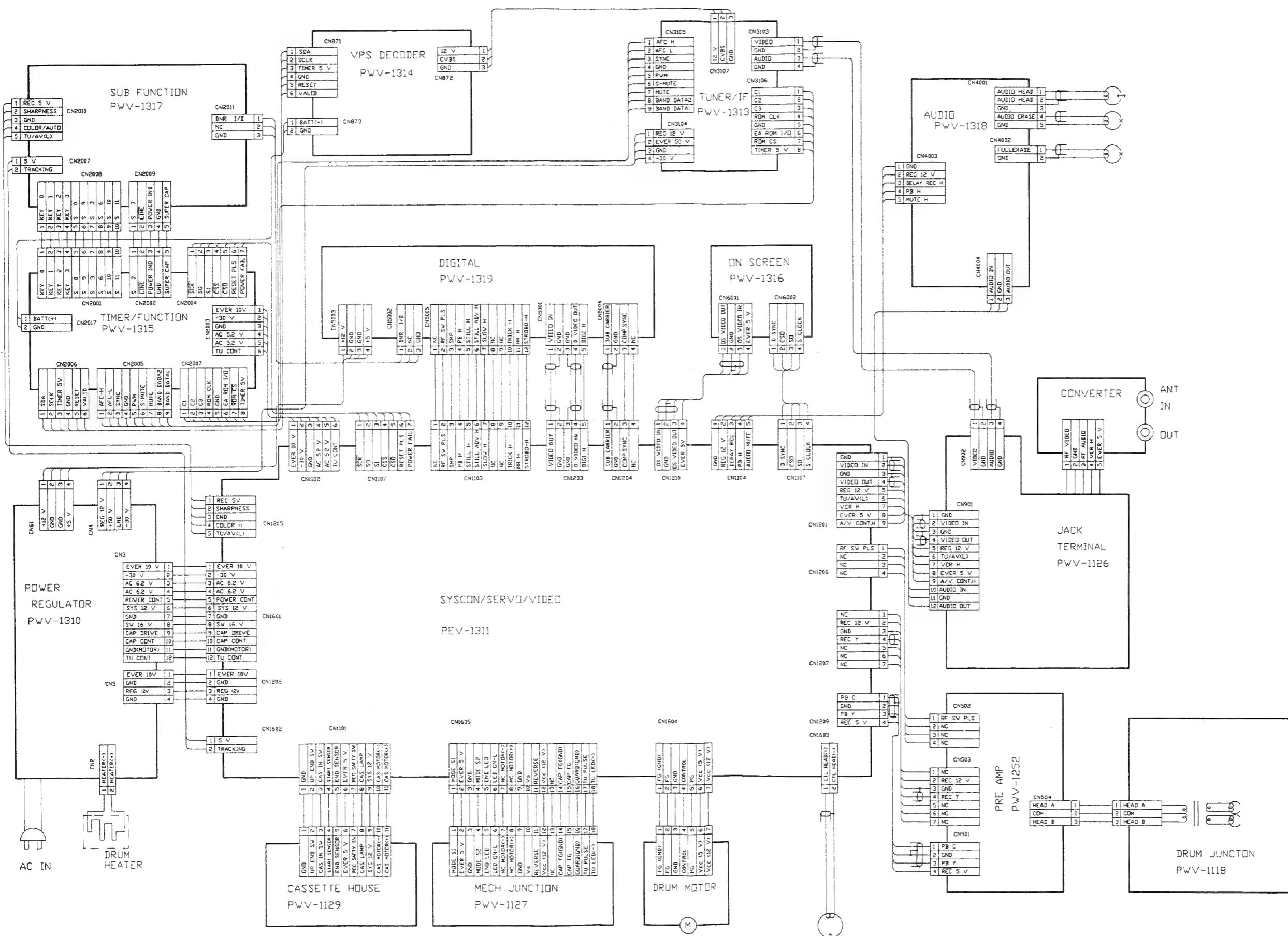


3-5. CAPSTAN SERVO TIMING CHART 2

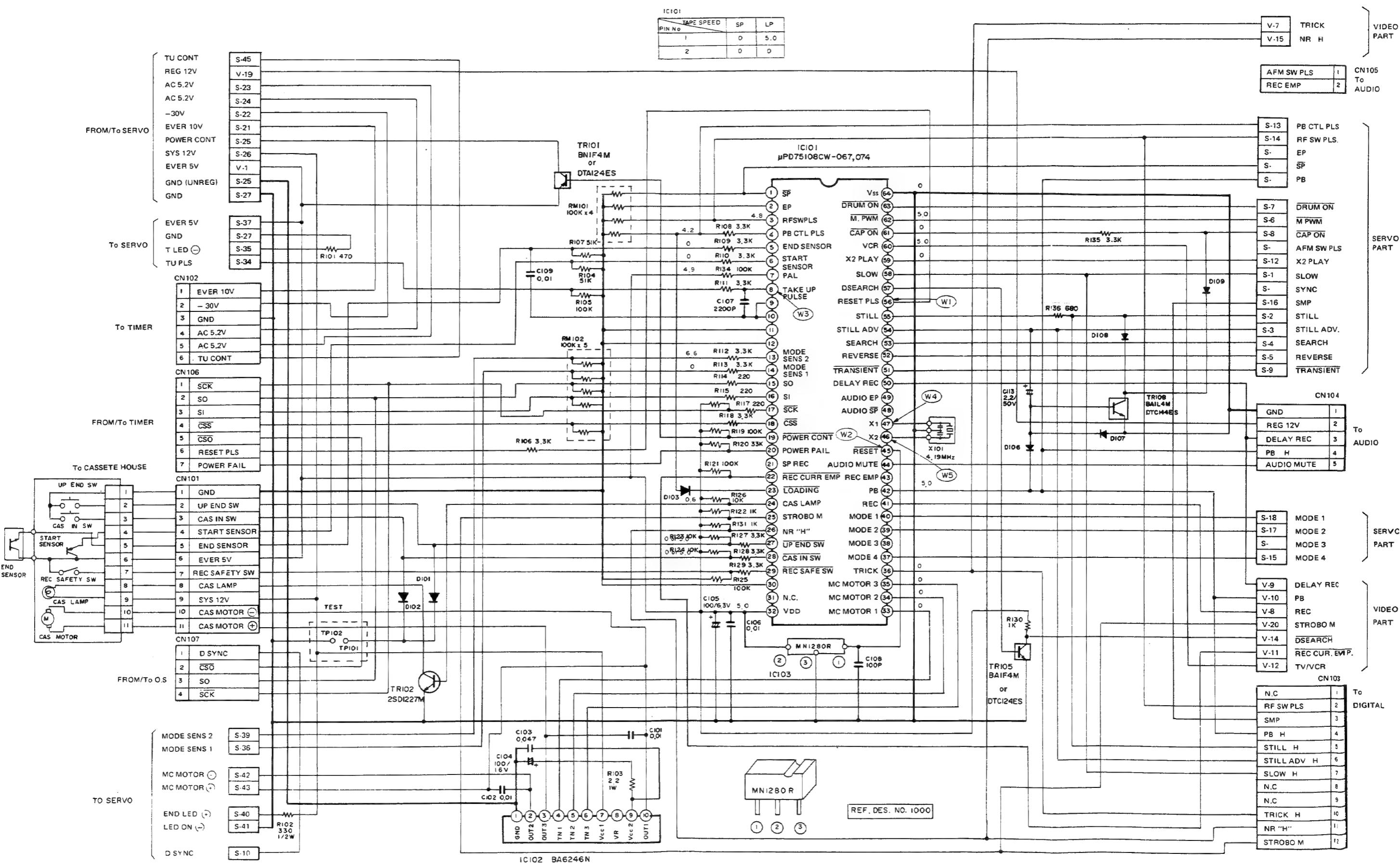


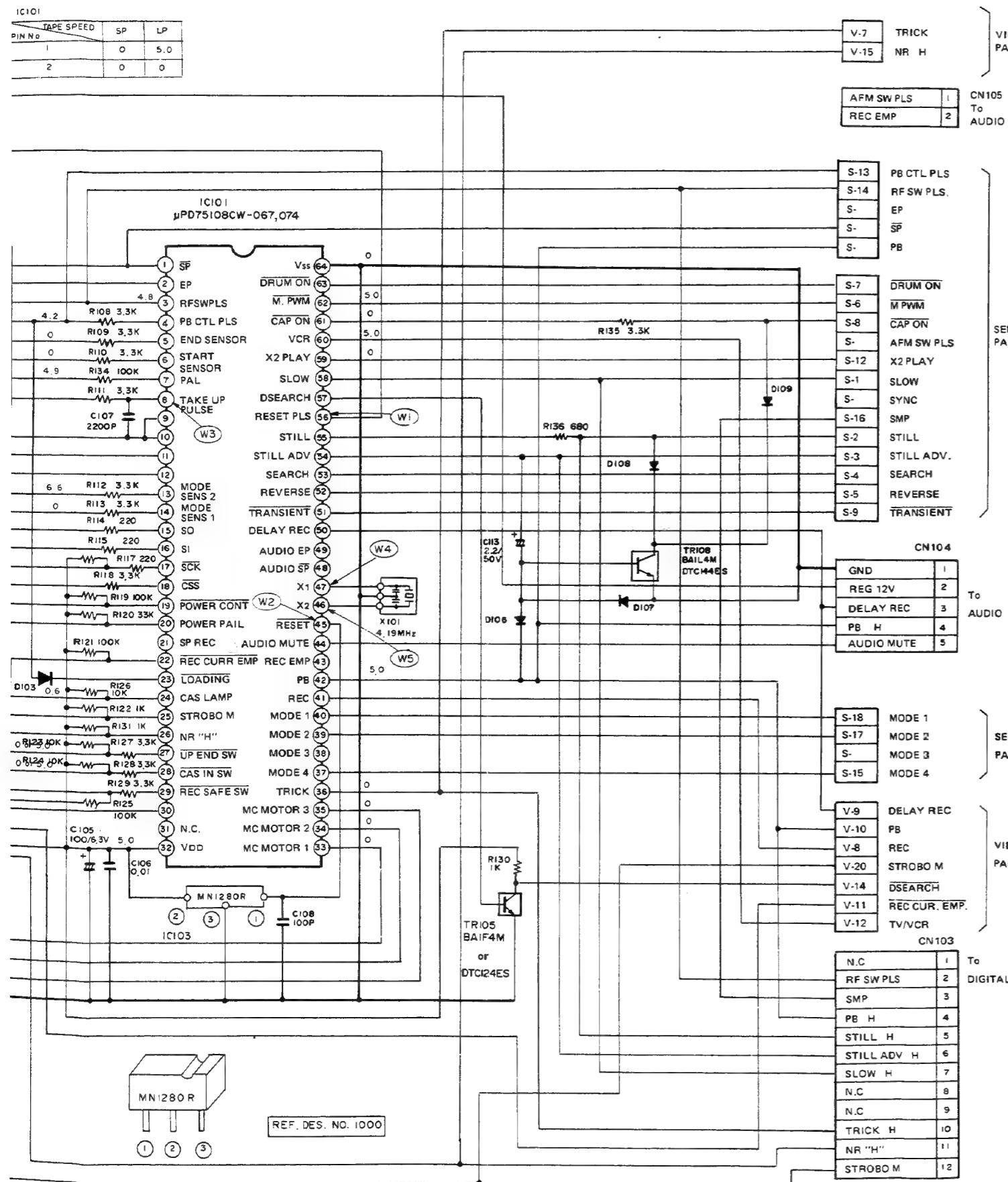
4. SCHEMATIC/CIRCUIT BOARD DIAGRAMS

4-1. FRAME WIRING

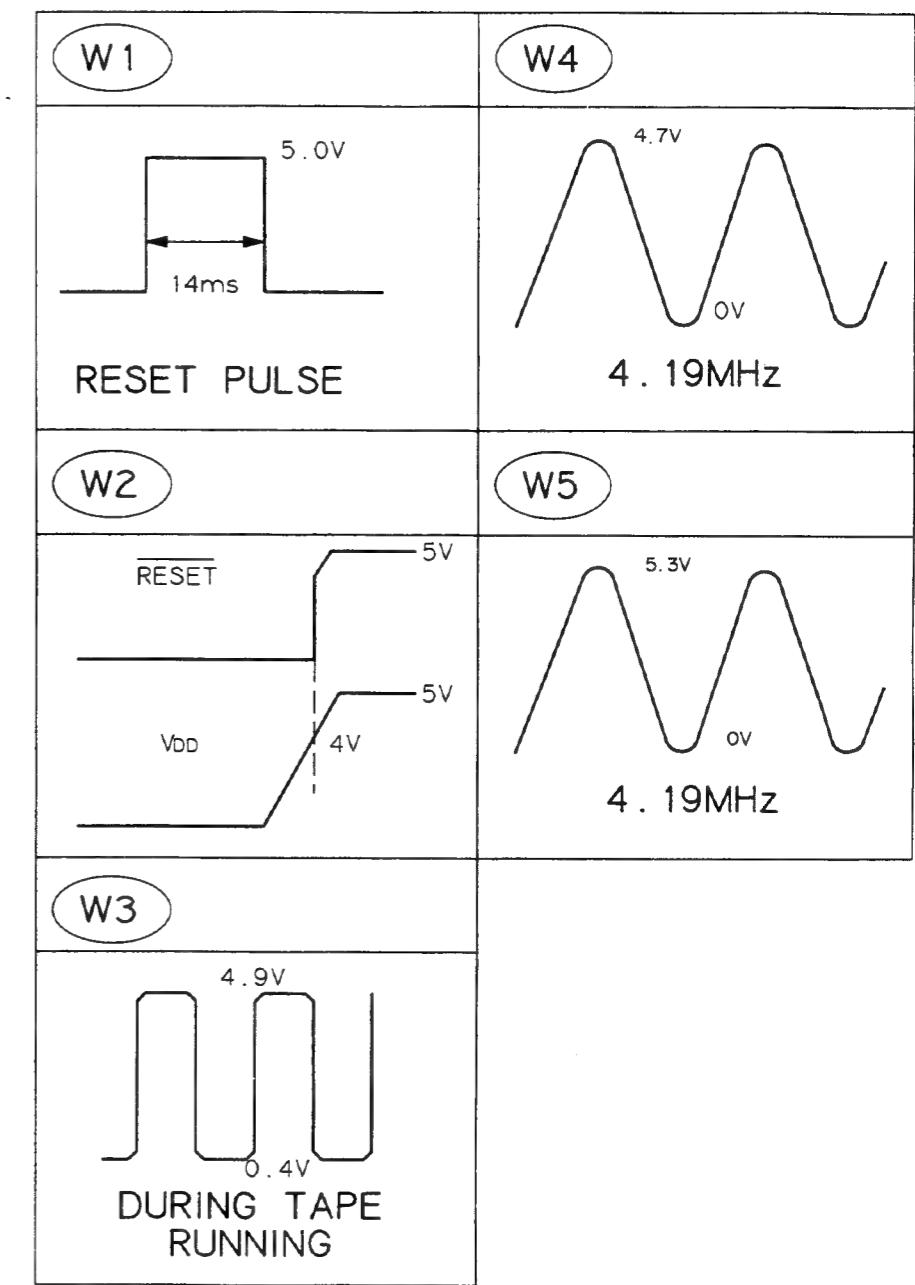


4-2. SYSCON SCHEMATIC DIAGRAM





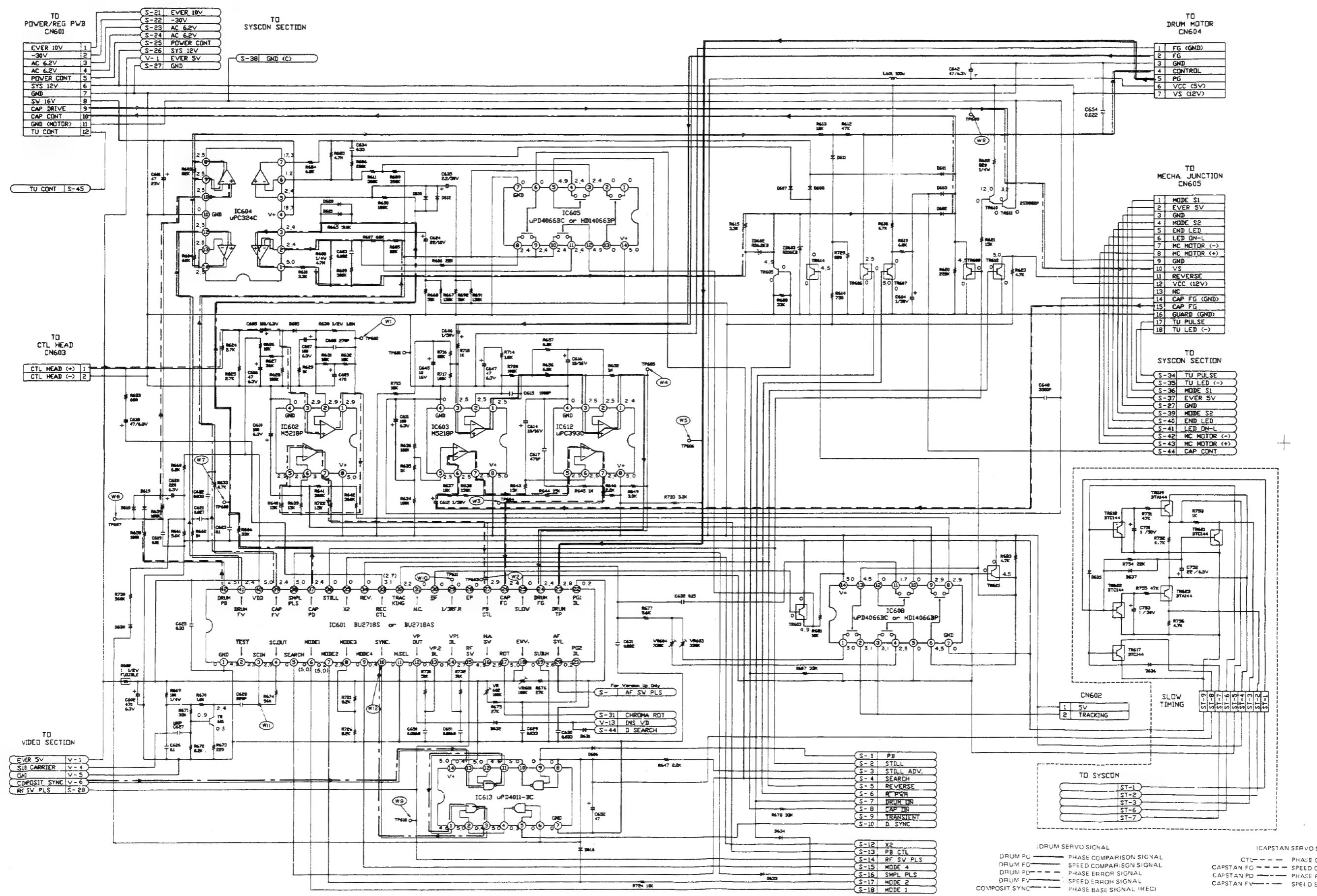
SYS CON WAVEFORMS



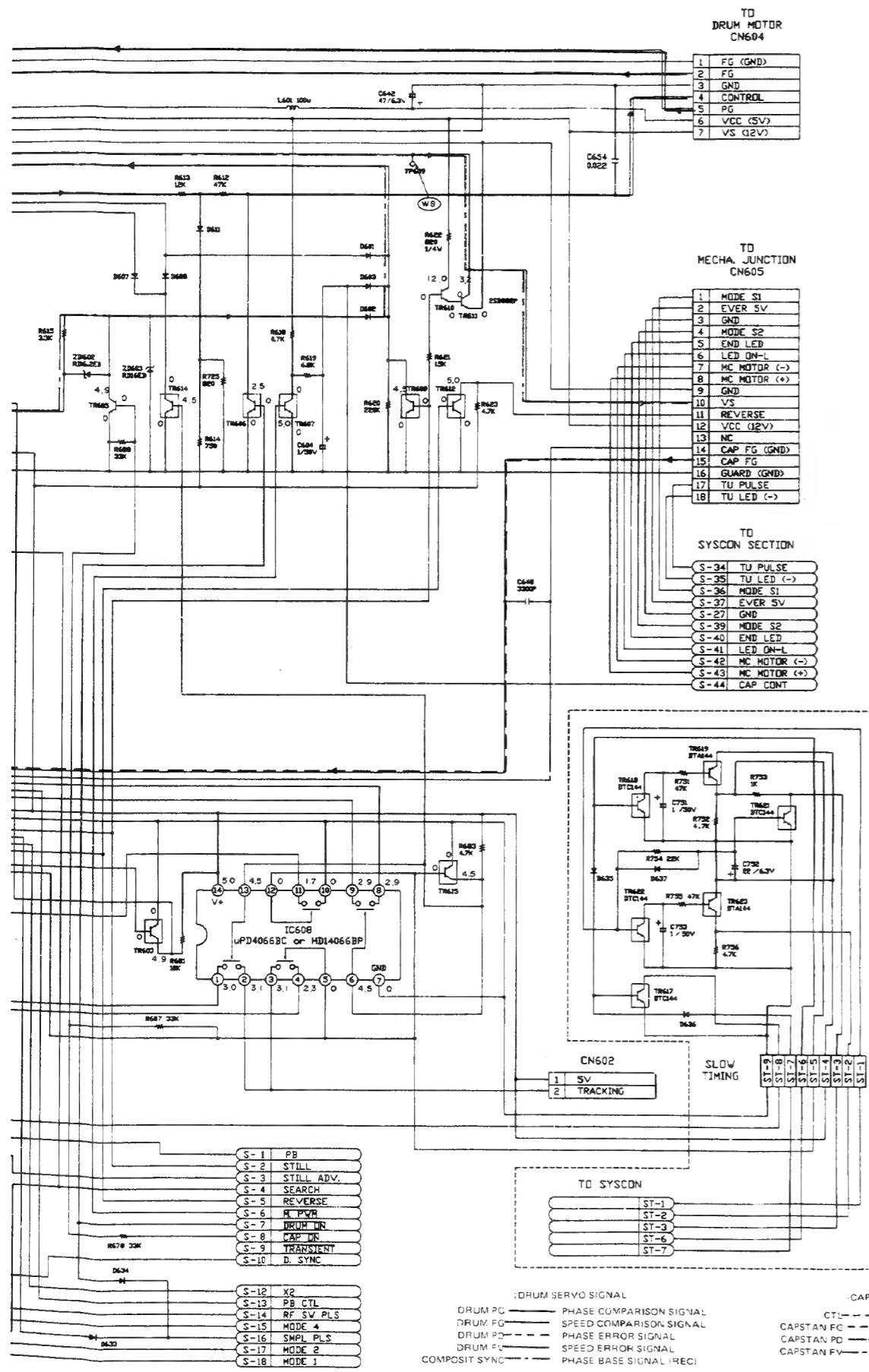
(NOTE

1. IC101 μ PD75108CW-067 is used in MP0001 up to 9500.
2. IC101 μ PD75108CW-074 is used in MP9501 and up. In the same way as the change was made to IC101 CW-074, the following parts are deleted.
 - Transistor TR108 BA1L4M or DTC144ES
 - Diodes D106, D107, D108, D109
 - Capacitor C113 2.2u, 50V
 - Resistors R135, R136
(Red shaded parts)

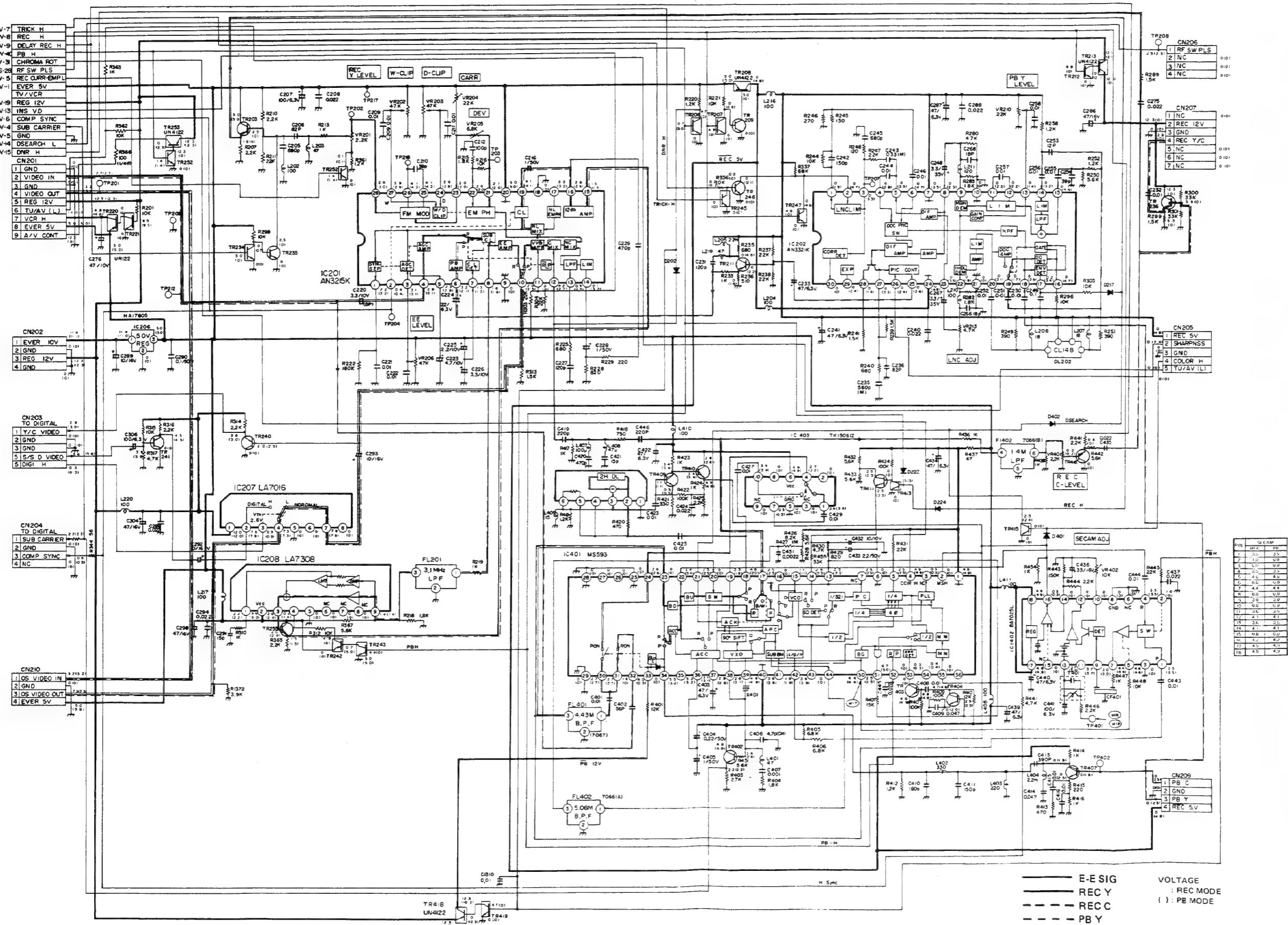
4-3. SERVO SCHEMATIC DIAGRAM



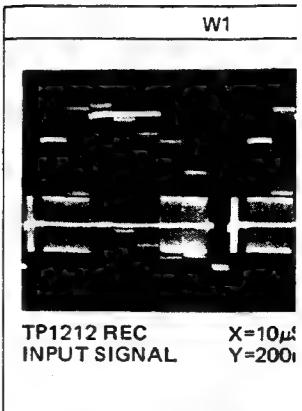
SERVO WAVEFORMS



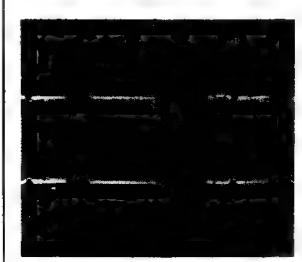
4-4. VIDEO/CHROMA SCHEMATIC DIAGRAM



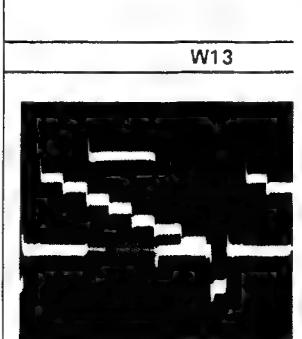
VIDEO WAVEFORMS



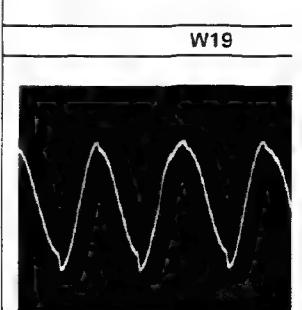
W7



TP501 (PRE AMP) REC X
REC FM SIGNAL Y



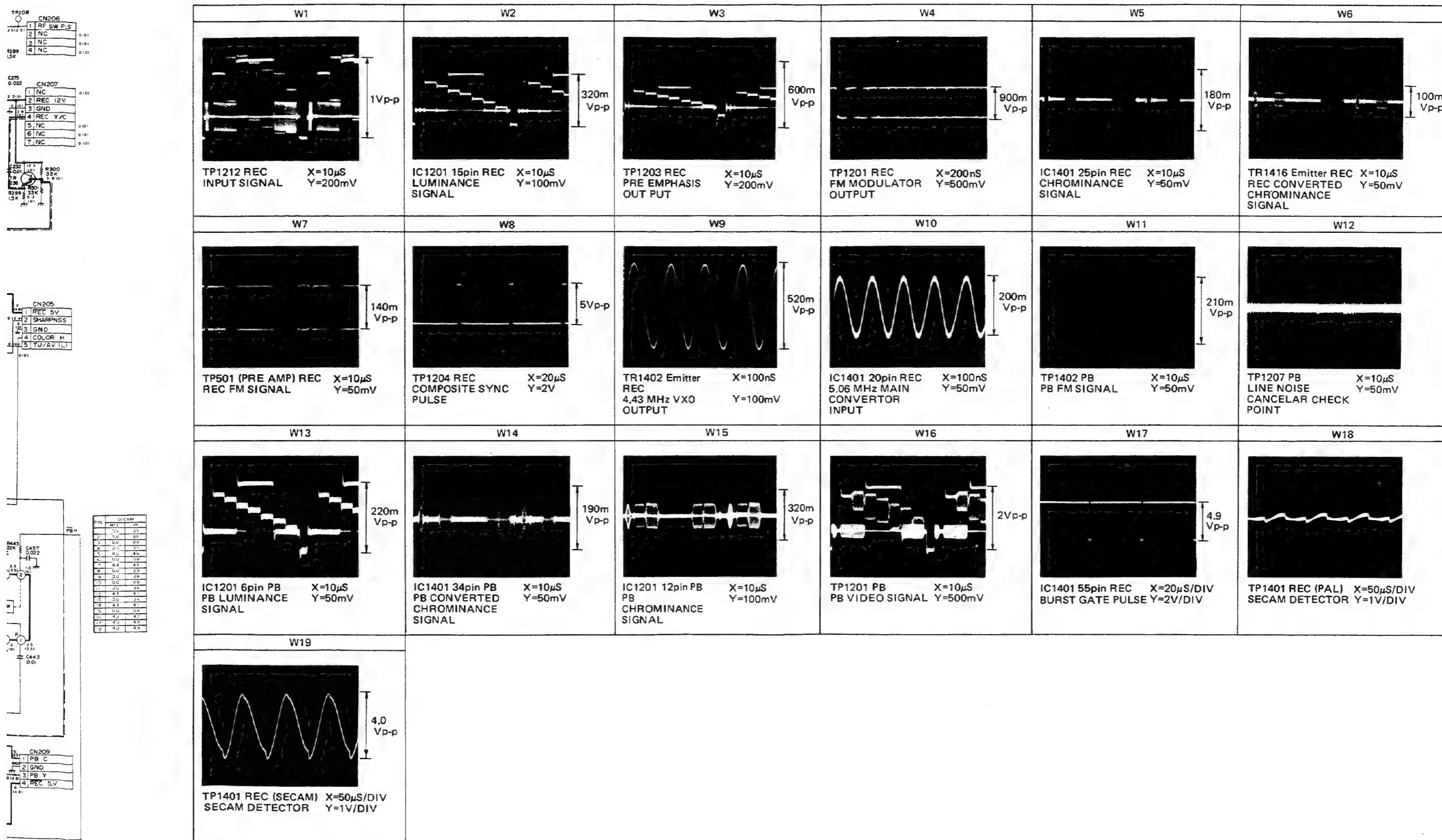
IC1201 6pin PB X=10 μ
PB LUMINANCE Y=50r
SIGNAL



TP1401 REC (SECAM) X= SECAM DETECTOR Y=

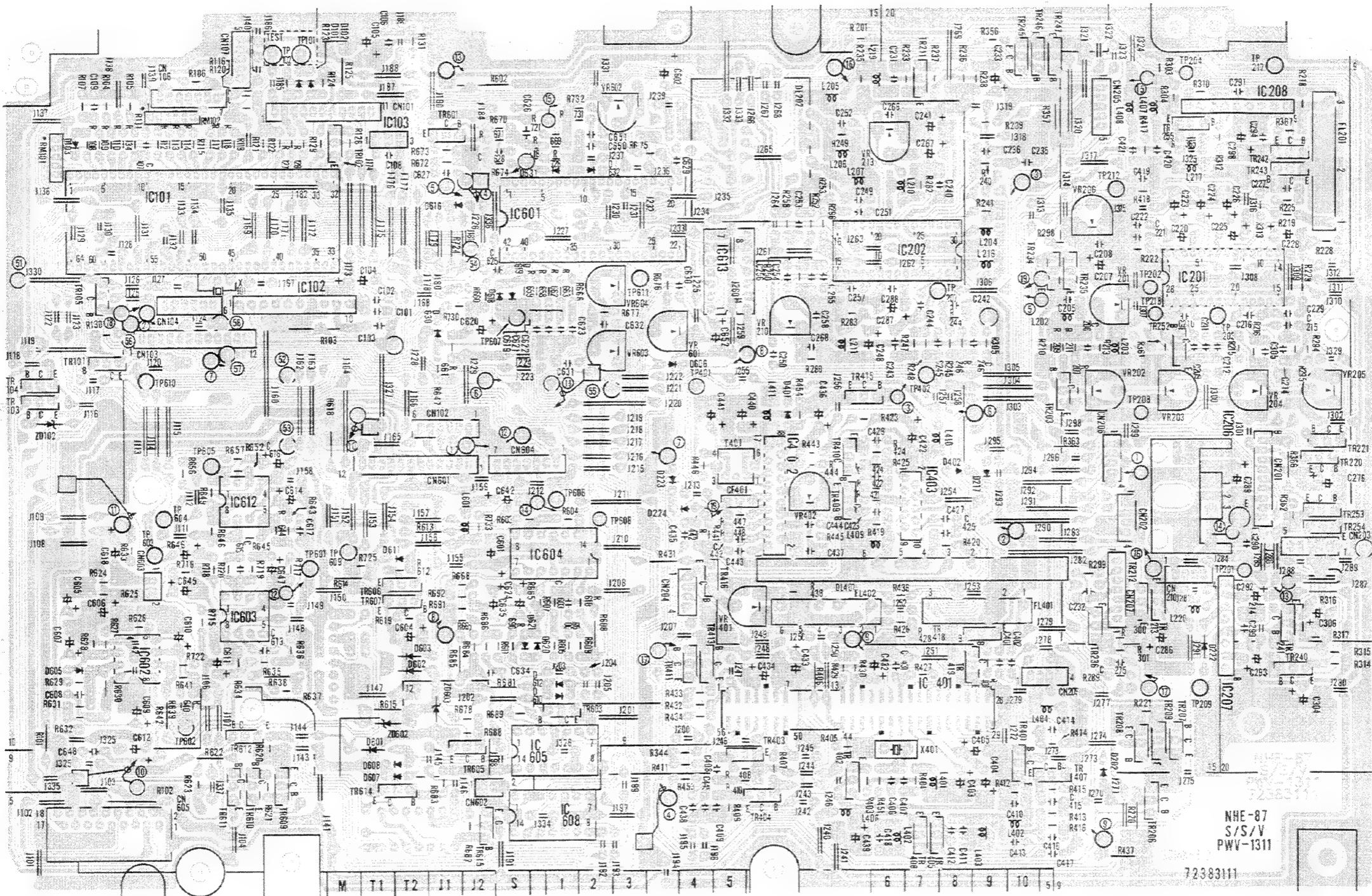
— E-E SIG
 — REC Y
 - - - REC C
 - - - PB Y
 — PB C

VIDEO WAVEFORMS

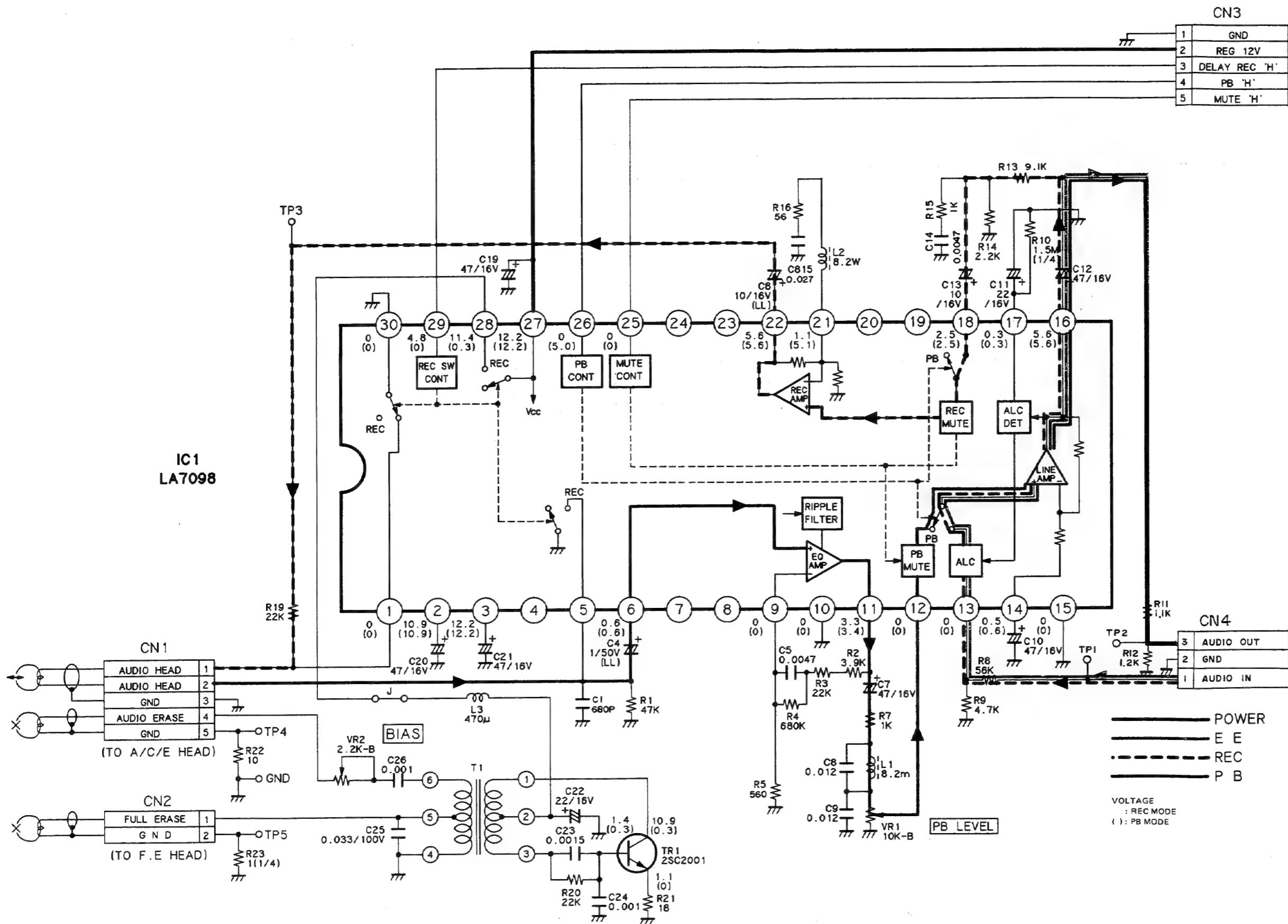


VOLTAGE
REC MODE
() : PB MODE

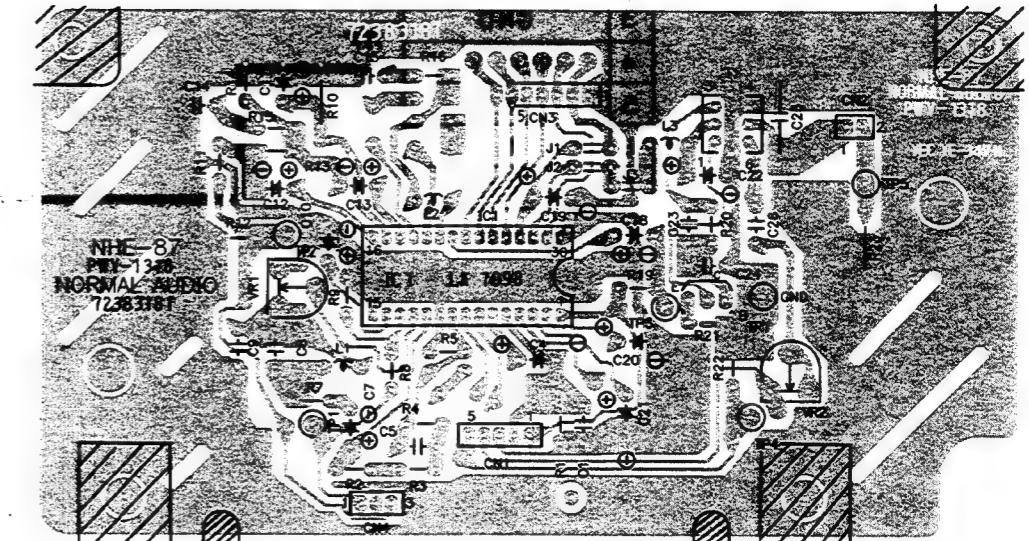
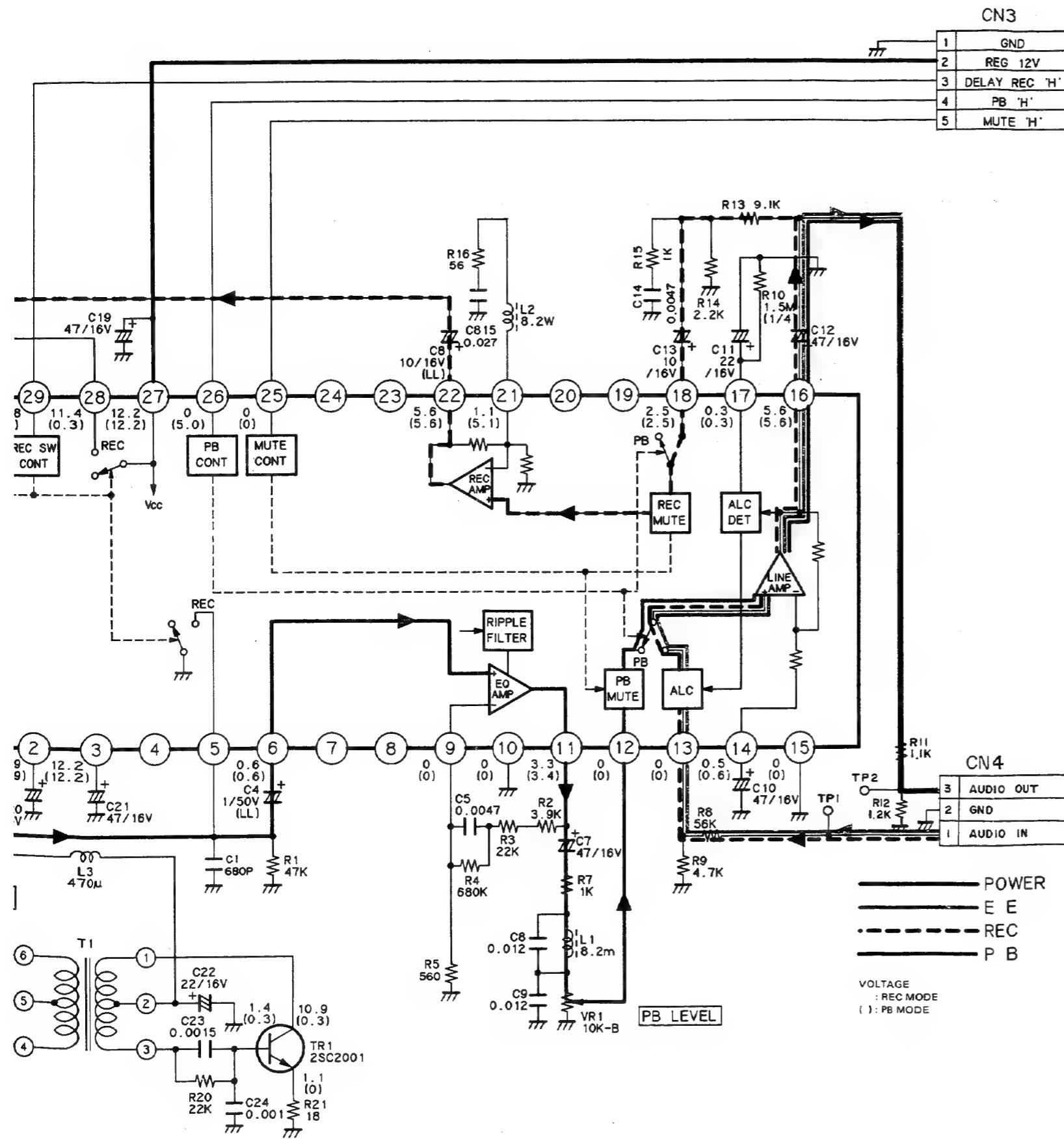
4-5. SYSCON/SERVO/VIDEO CIRCUIT BOARD



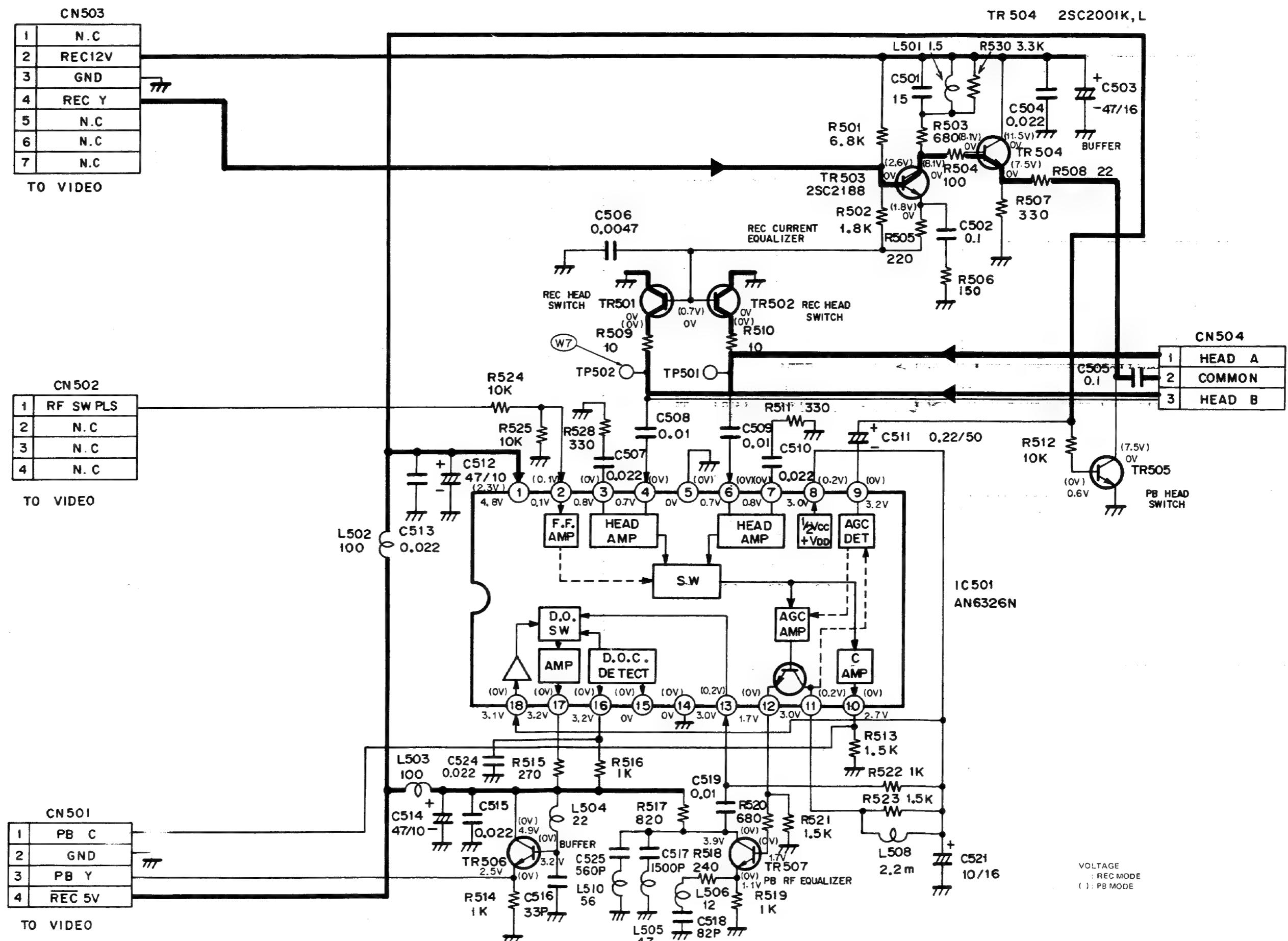
4-6. AUDIO SCHEMATIC DIAGRAM



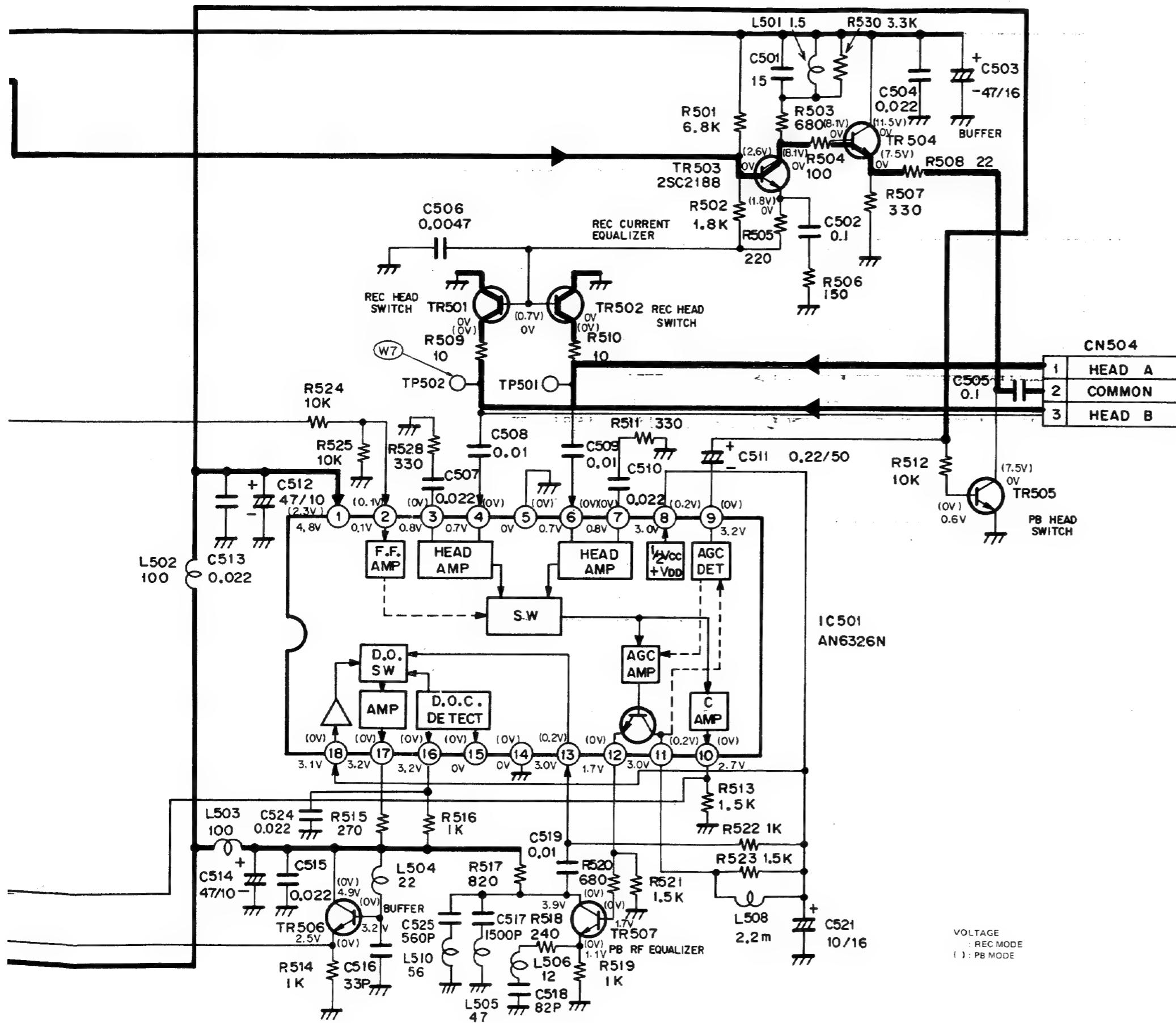
4-7. AUDIO CIRCUIT BOARD



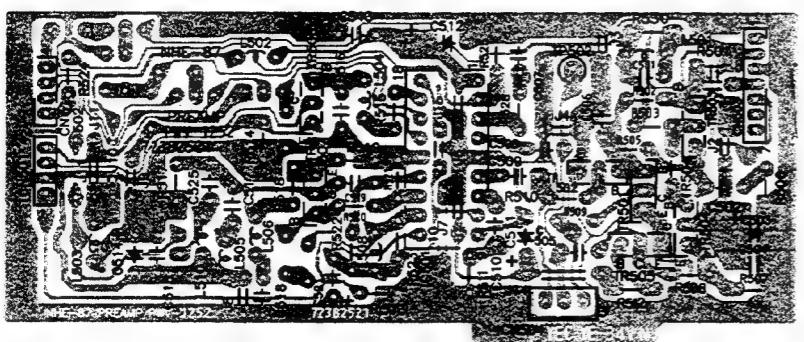
4-8. PRE AMP SCHEMATIC DIAGRAM



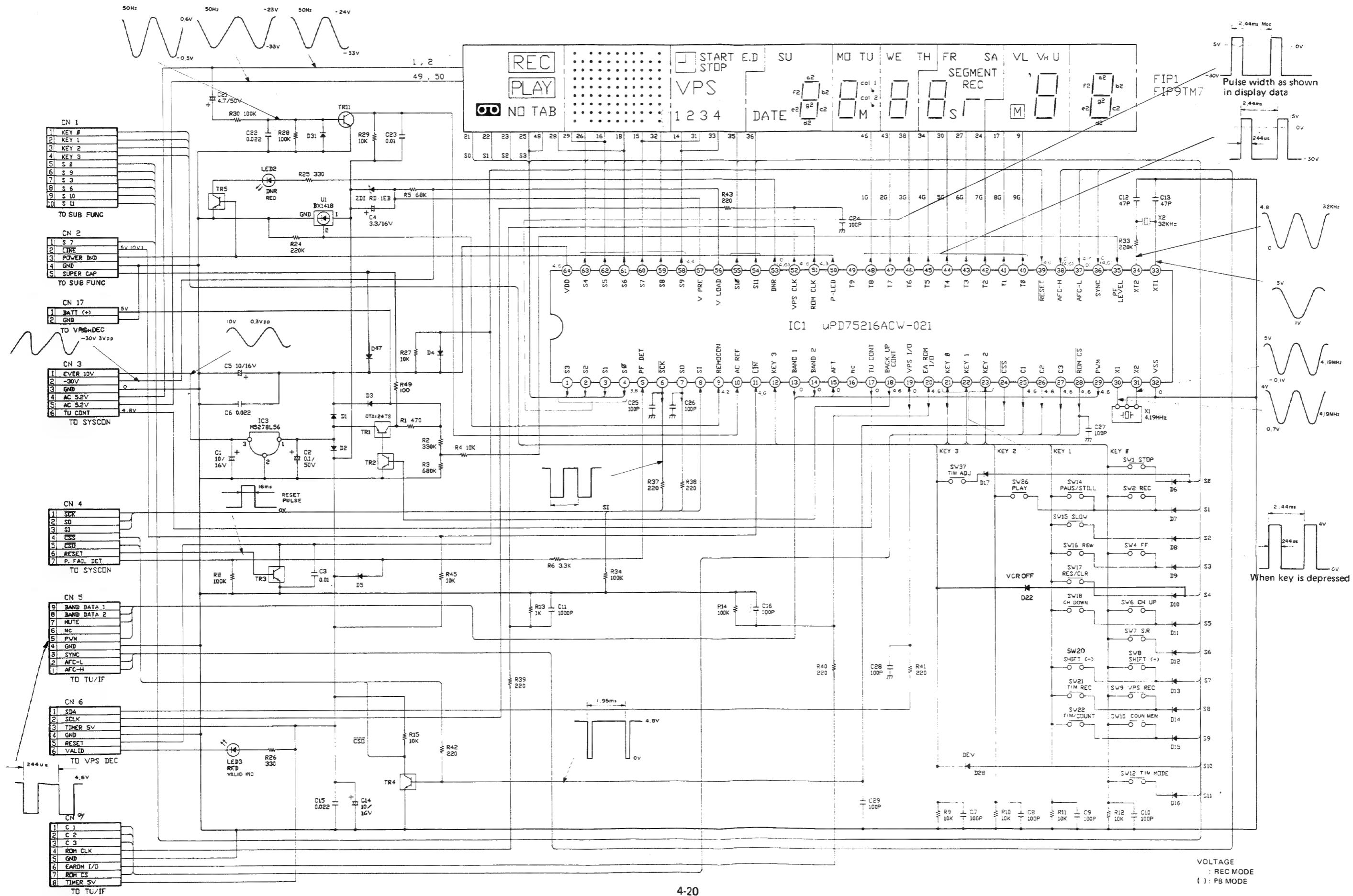
TR 504 2SC2001K



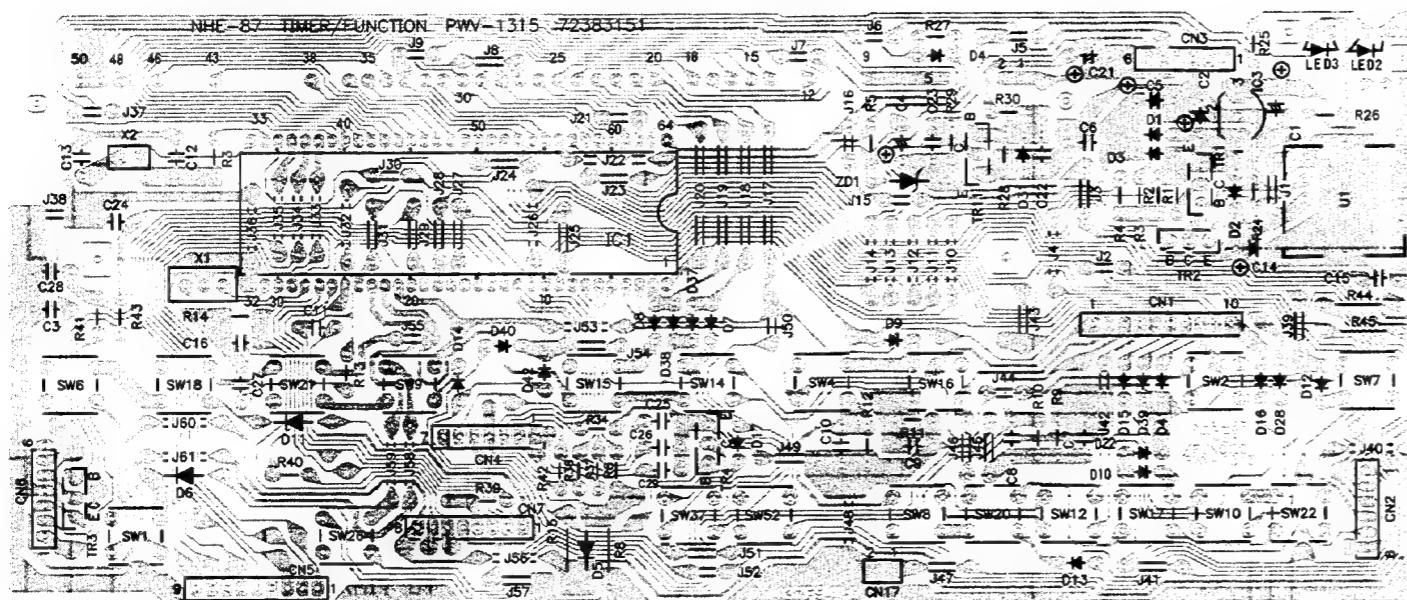
4-9. PRE AMP CIRCUIT BOARD



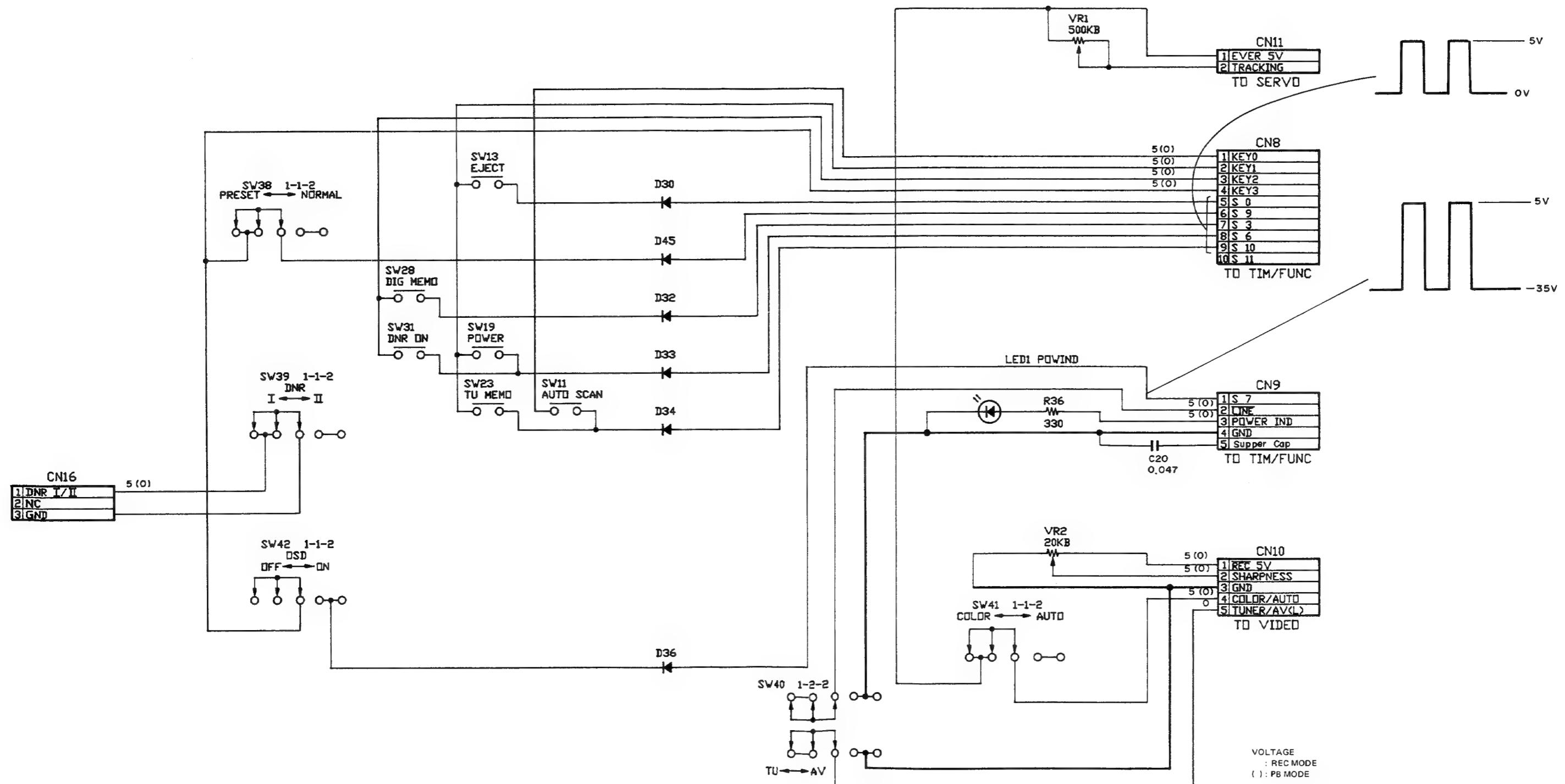
4-10. TIMER FUNCTION SCHEMATIC DIAGRAM



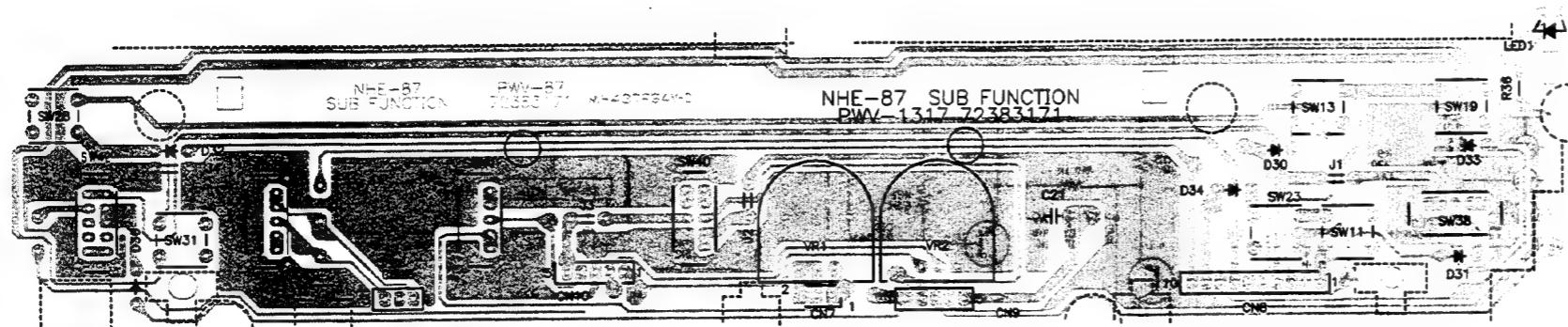
4-11. TIMER FUNCTION CIRCUIT BOARD



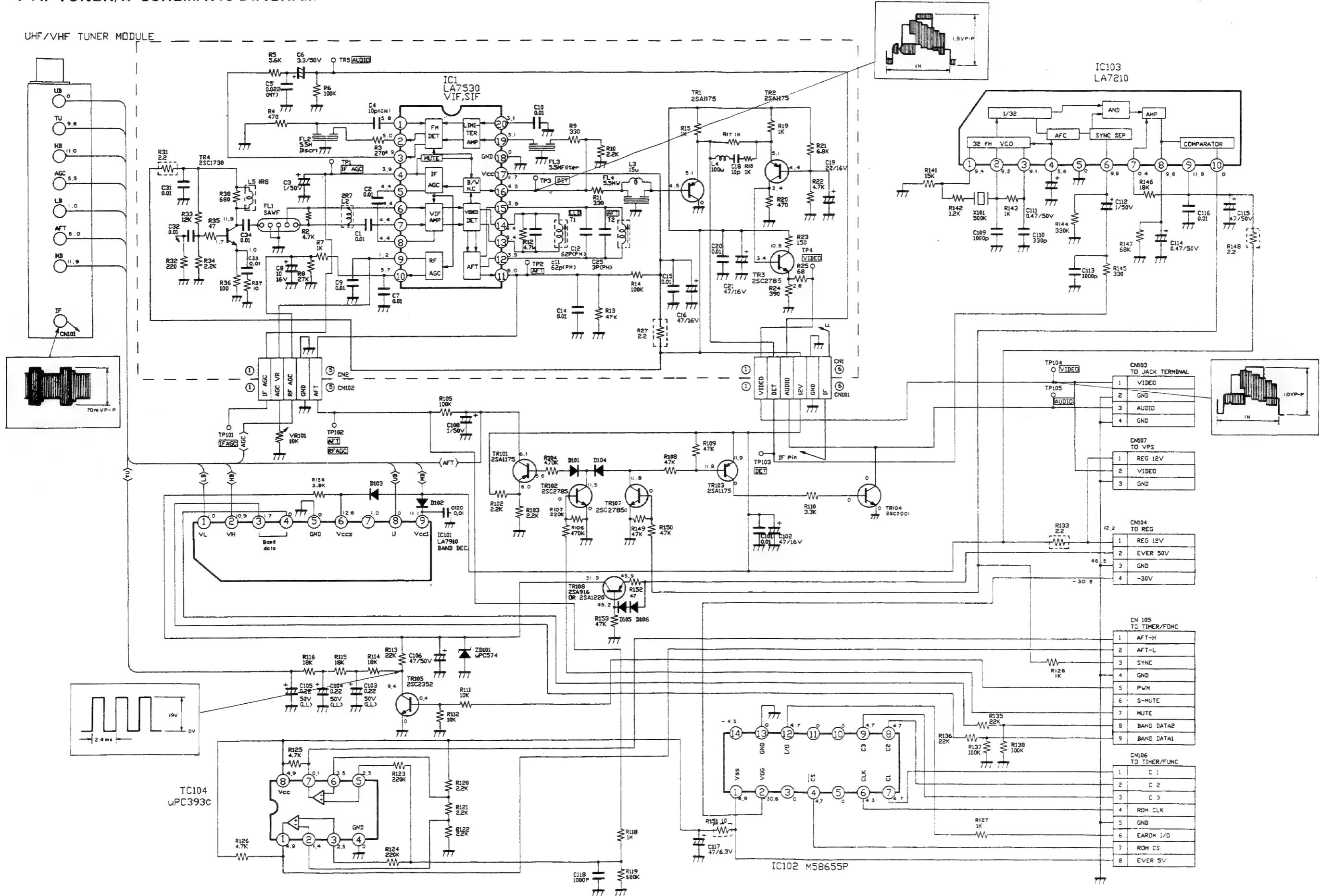
4-12. SUB FUNCTION SCHEMATIC DIAGRAM



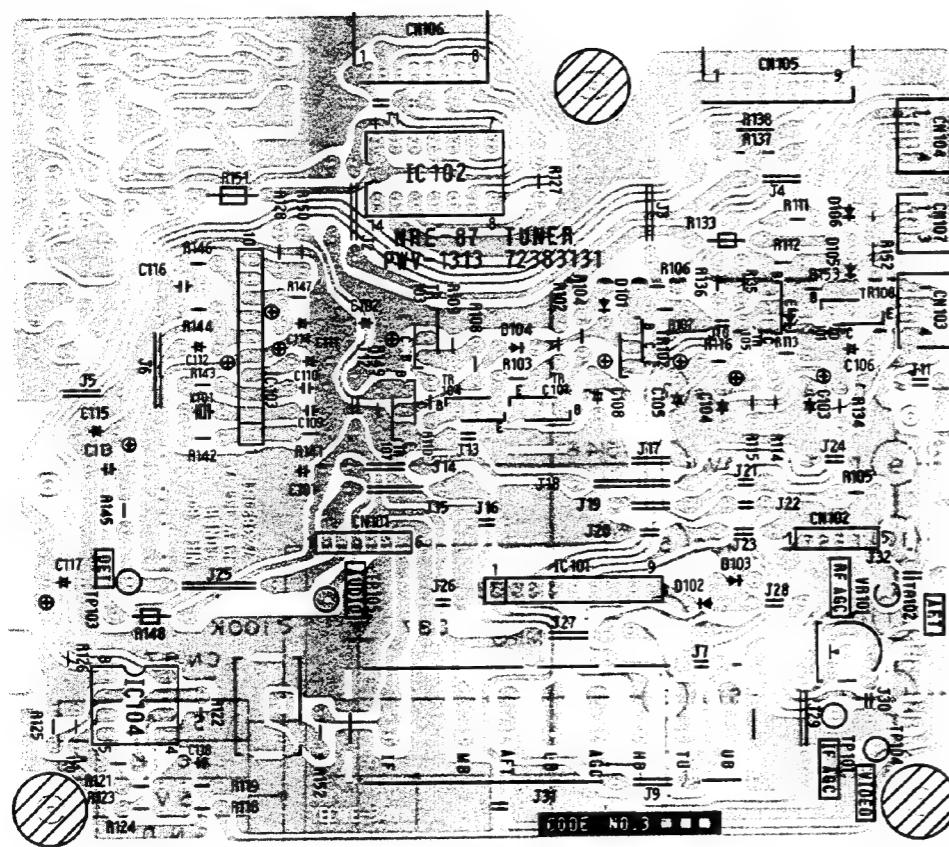
4-13. SUB FUNCTION CIRCUIT BOARD



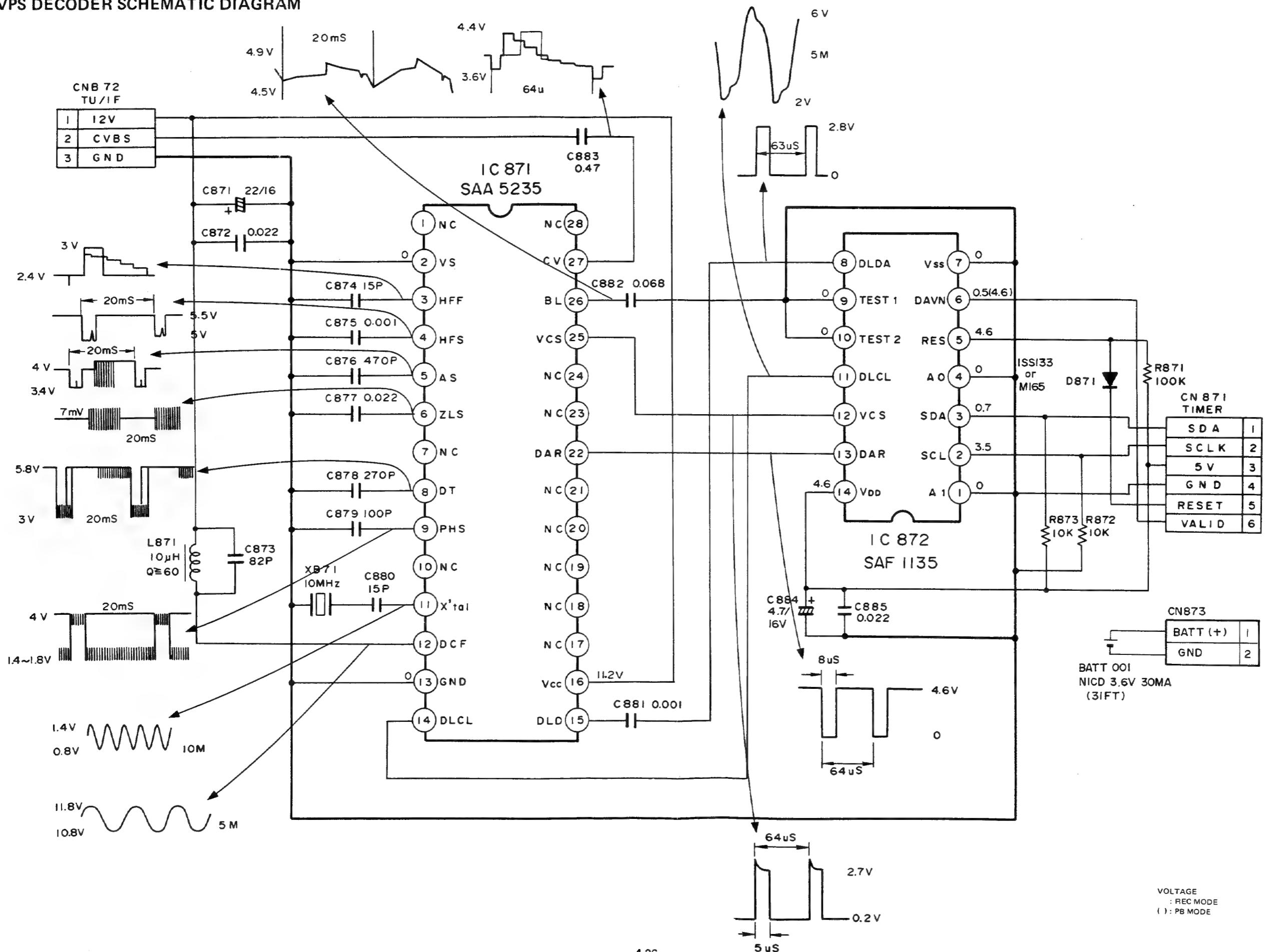
4-14. TUNER/IF SCHEMATIC DIAGRAM



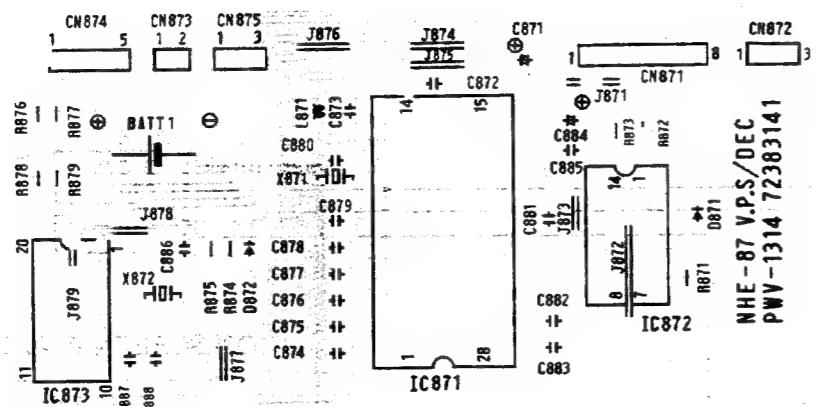
4-15. TUNER/IF CIRCUIT BOARD



4-16. VPS DECODER SCHEMATIC DIAGRAM

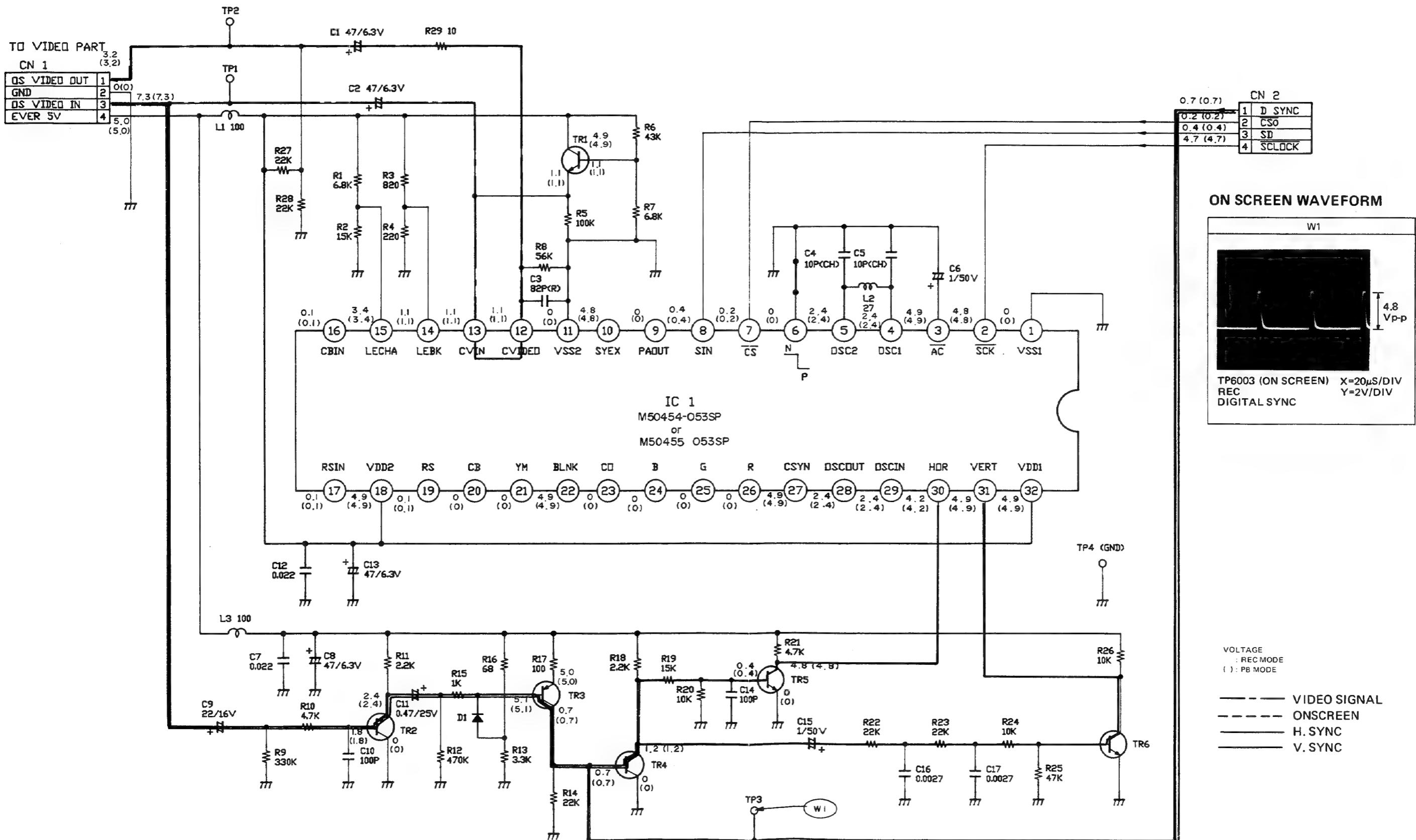


4-17. VPS DECODER CIRCUIT BOARD

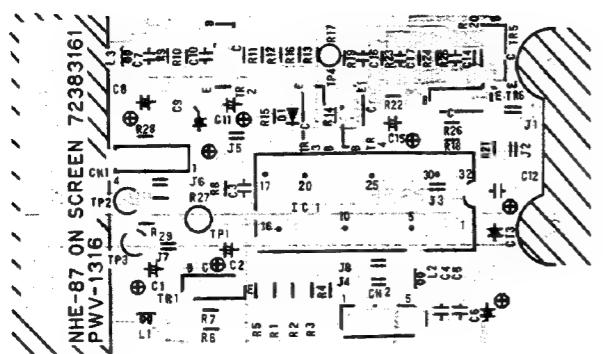


NHE-87 V.P.S./DEC
PWV-1314 72383141

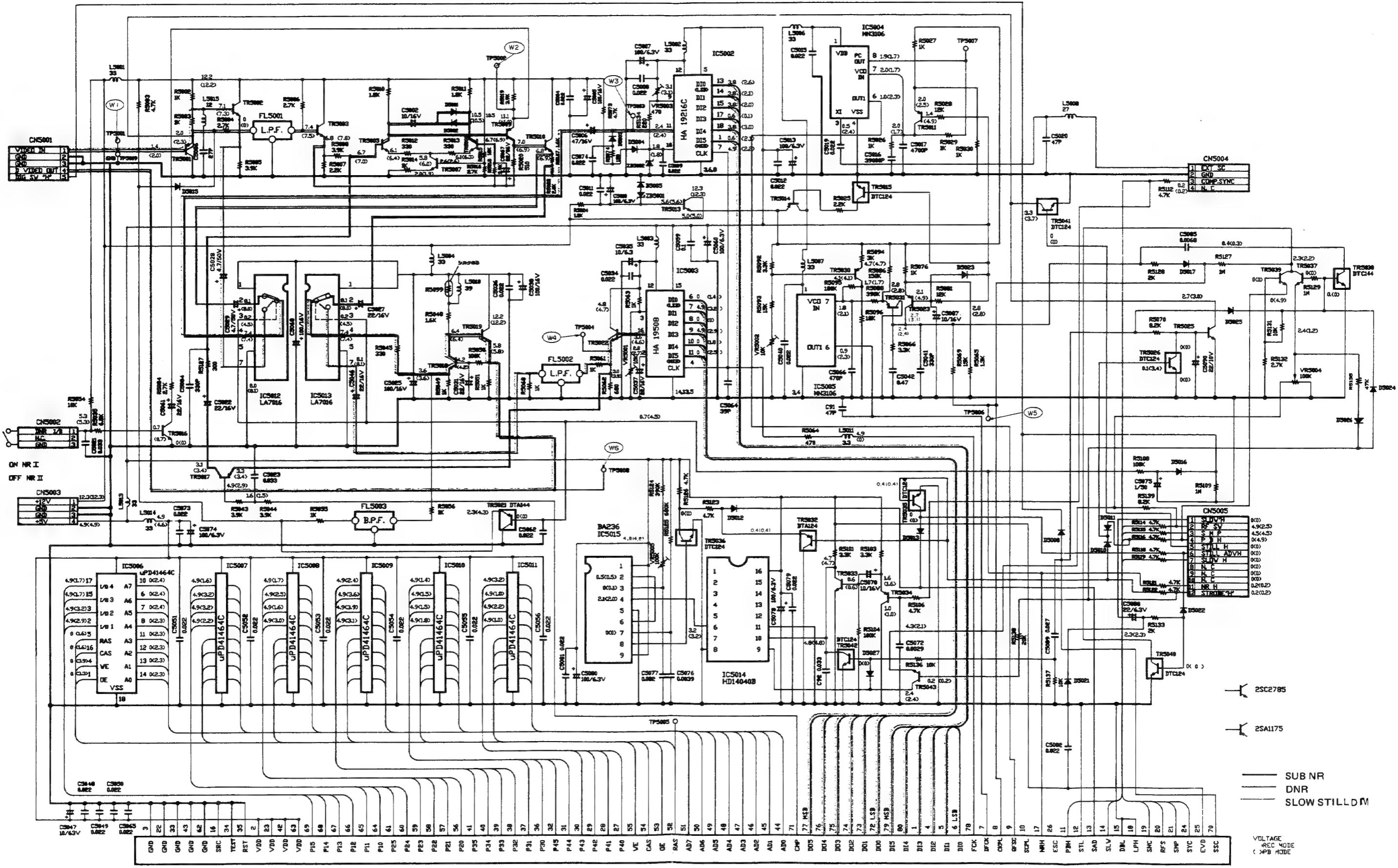
4-18. ON SCREEN SCHEMATIC DIAGRAM

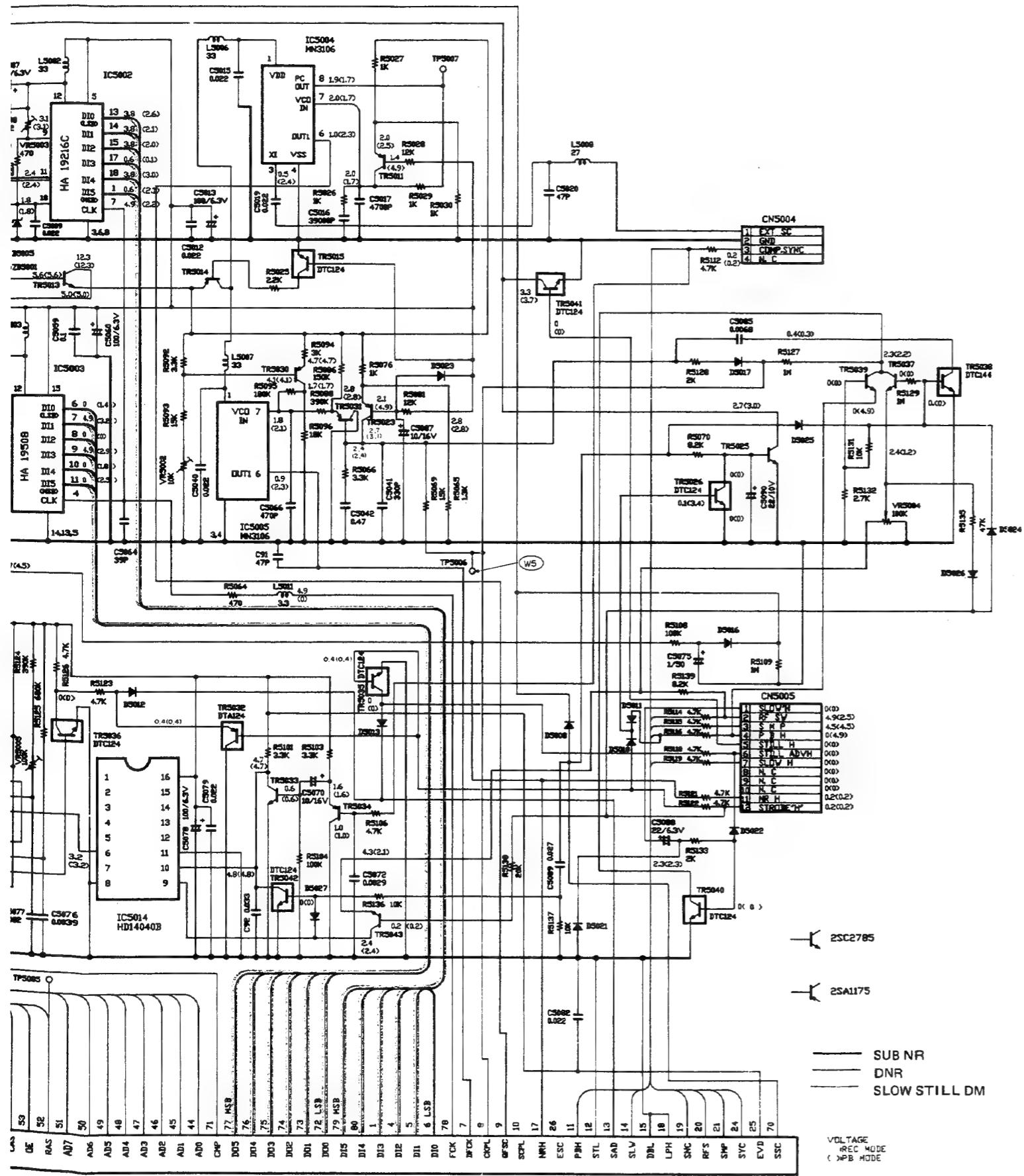


4-19. ON SCREEN CIRCUIT BOARD

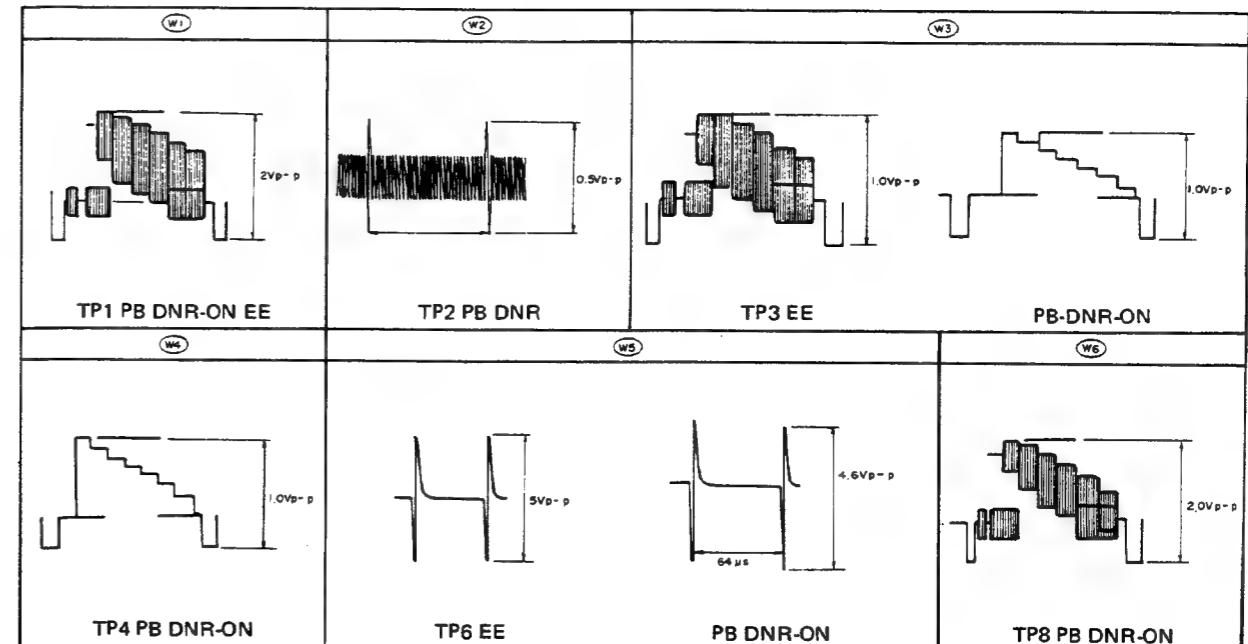


4-20. DIGITAL SCHEMATIC DIAGRAM

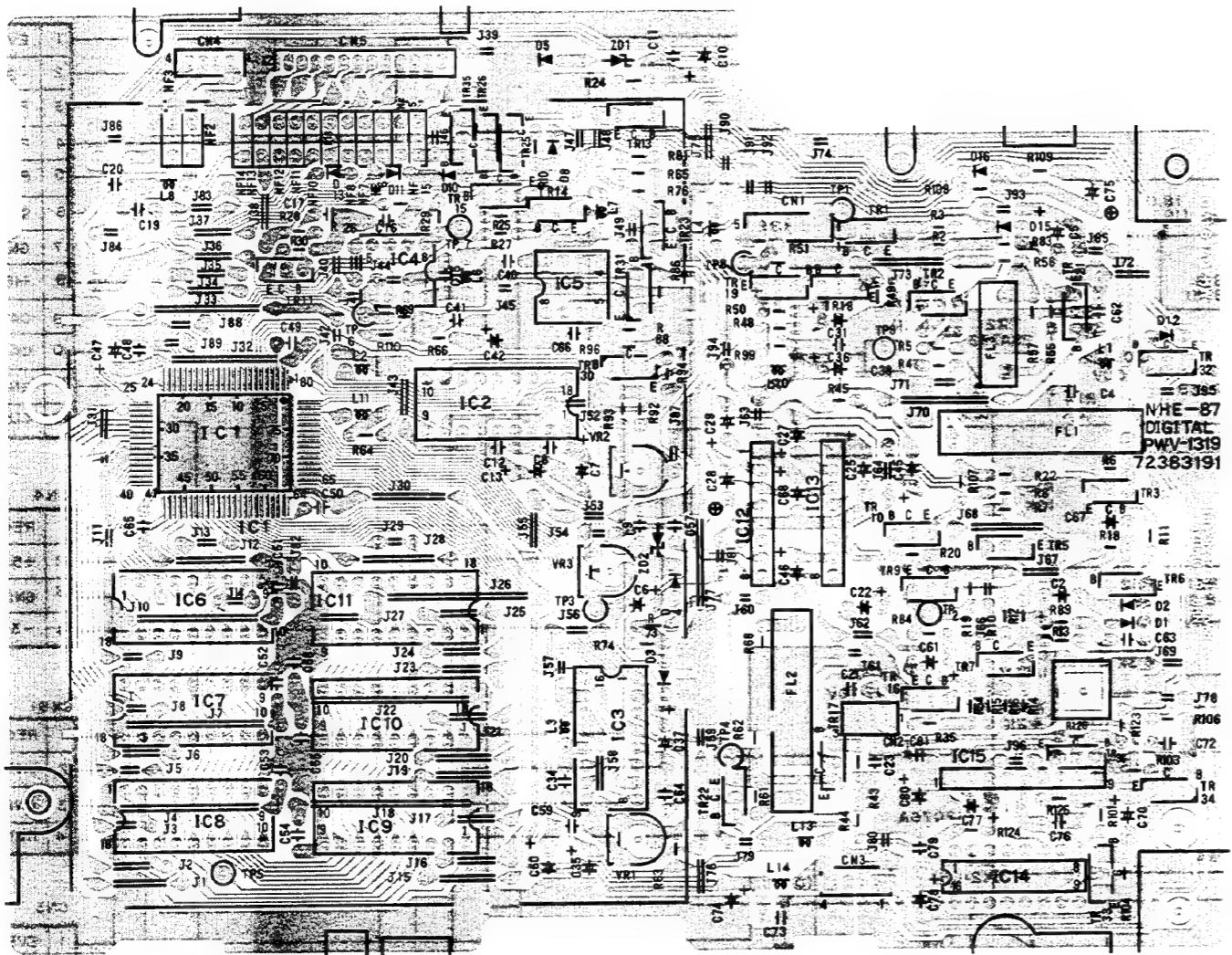




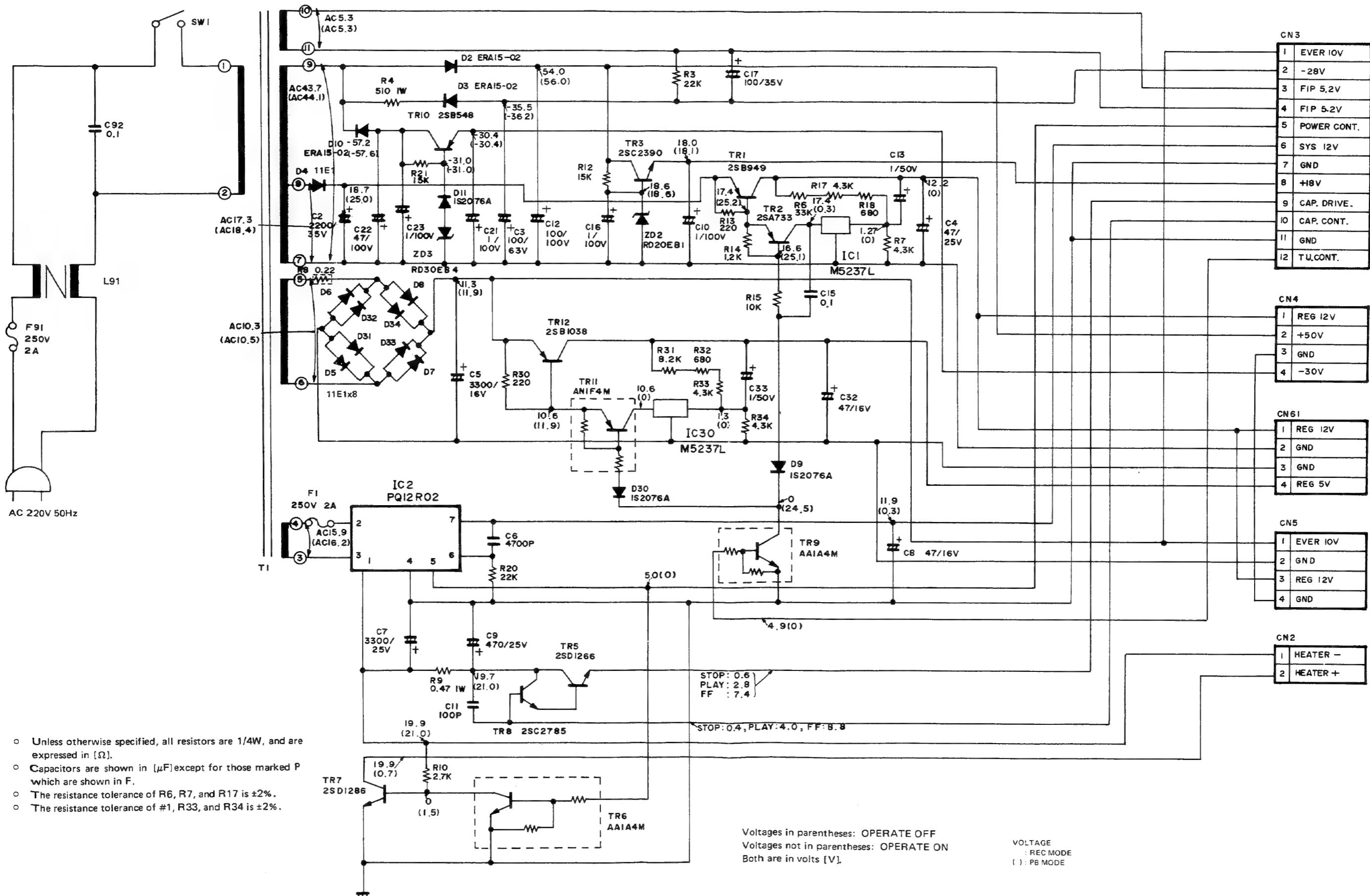
DIGITAL WAVEFORMS



4-21. DIGITAL CIRCUIT BOARD



4-22. POWER/REGULATOR SCHEMATIC DIAGRAM

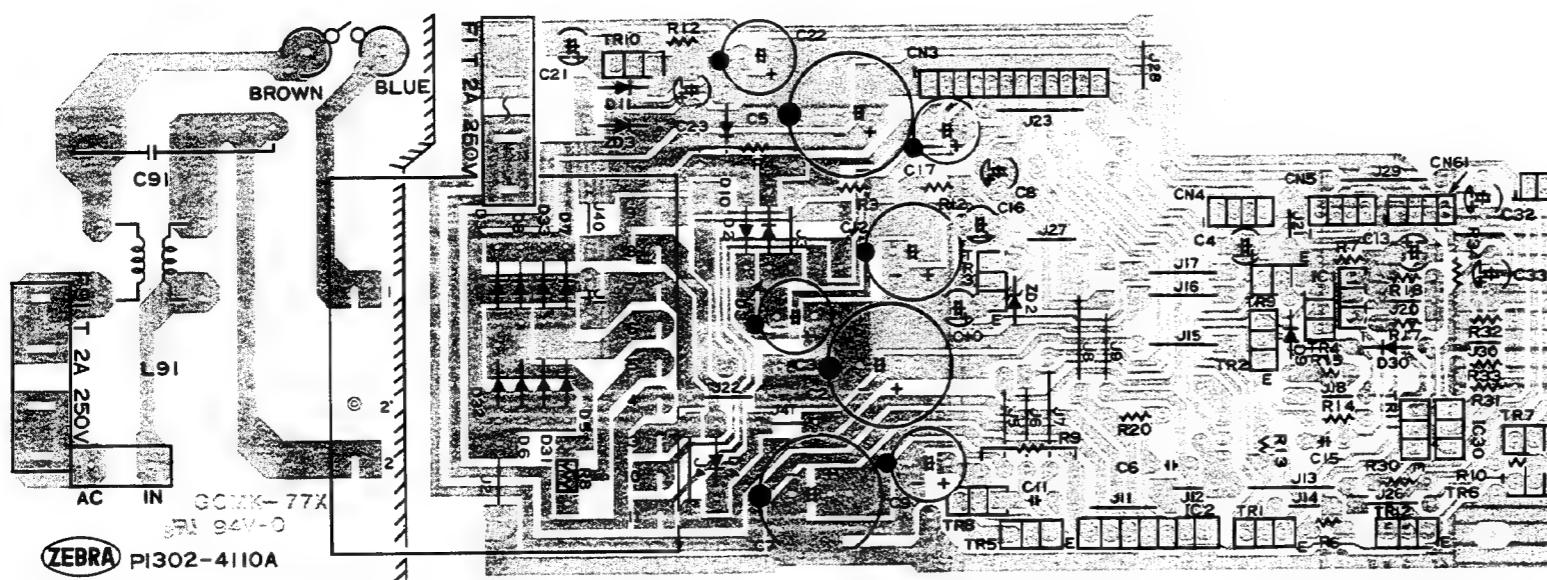


- Unless otherwise specified, all resistors are 1/4W, and are expressed in $[\Omega]$.
- Capacitors are shown in $[\mu\text{F}]$ except for those marked P which are shown in F.
- The resistance tolerance of R6, R7, and R17 is $\pm 2\%$.
- The resistance tolerance of #1, R33, and R34 is $\pm 2\%$.

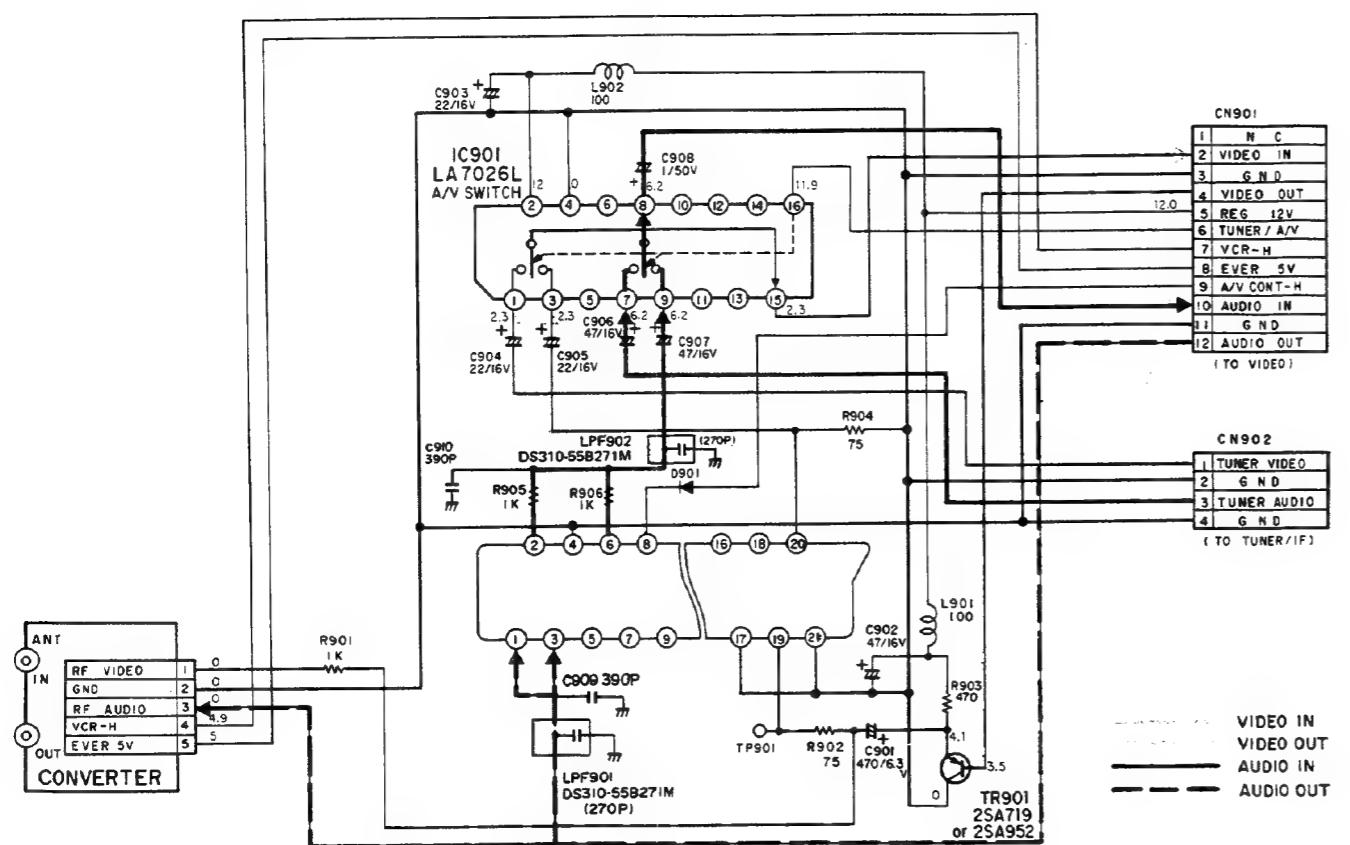
Voltages in parentheses: OPERATE OFF
Voltages not in parentheses: OPERATE ON
Both are in volts [V].

VOLTAGE
: REC MODE
() : PB MODE

4-23. POWER/REGULATOR CIRCUIT BOARD

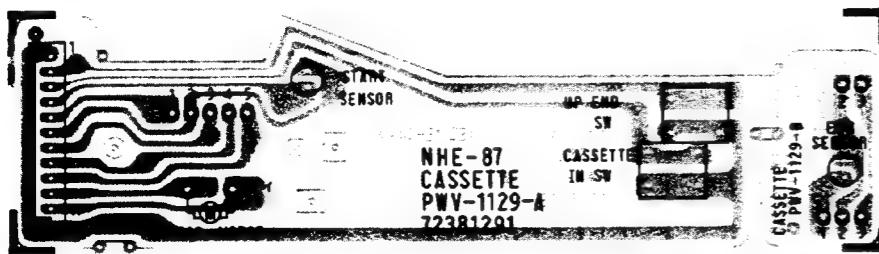


4-24. JACK TERMINAL SCHEMATIC DIAGRAM

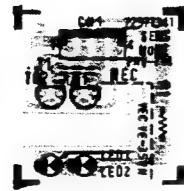


4-26. OTHER MINI-CIRCUIT BOARD

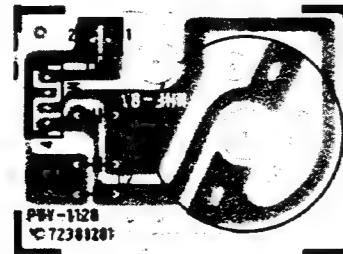
• CASSETTE CIRCUIT BOARD



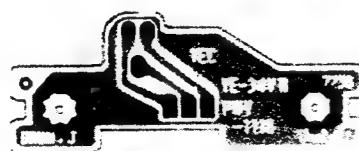
• MODE SENSOR CIRCUIT BOARD



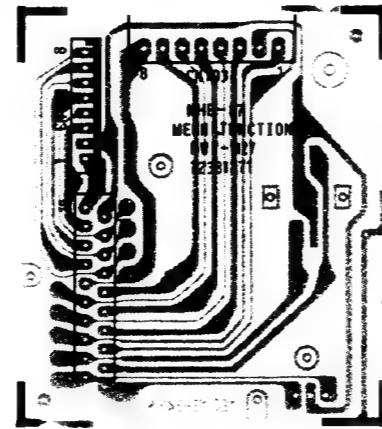
• MC CONTROL CIRCUIT BOARD



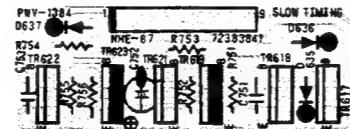
• DRUM JUNCTION CIRCUIT BOARD



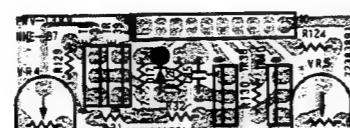
• MECHA JUNCTION CIRCUIT BOARD



• SLOW TIMING CIRCUIT BOARD



• SUB DIGITAL CIRCUIT BOARD



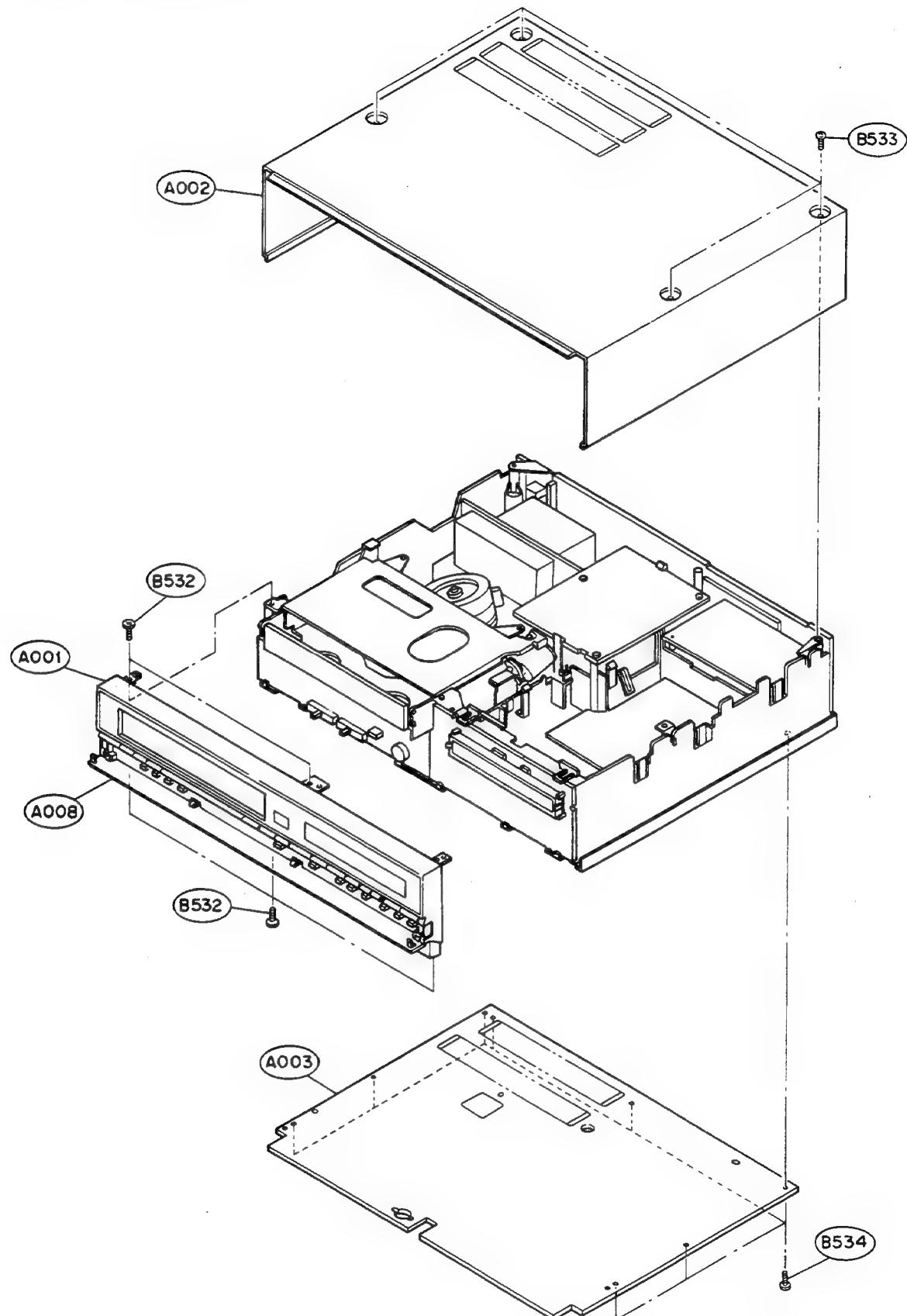
DIGITAL TRANSISTOR INFORMATION

SYMBOL	FIGURE
BA1L4M	
BN1L4M	
BA1F4M	
BN1F4M	
BN1A4M AN1A4M	
BA1A4M AA1A4M	
UN4122	
BB1A3Z	

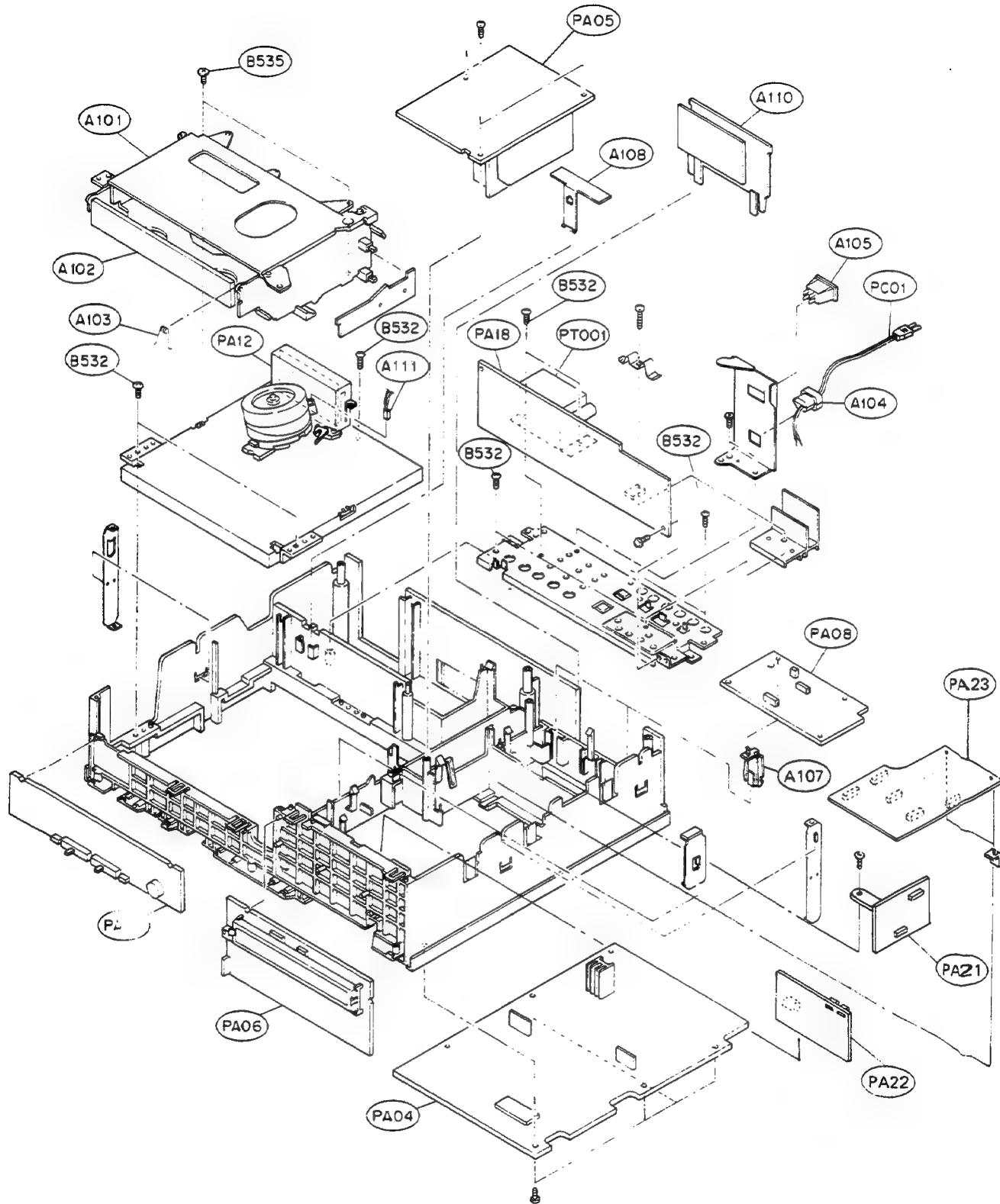
SECTION 5

EXPLODED VIEW

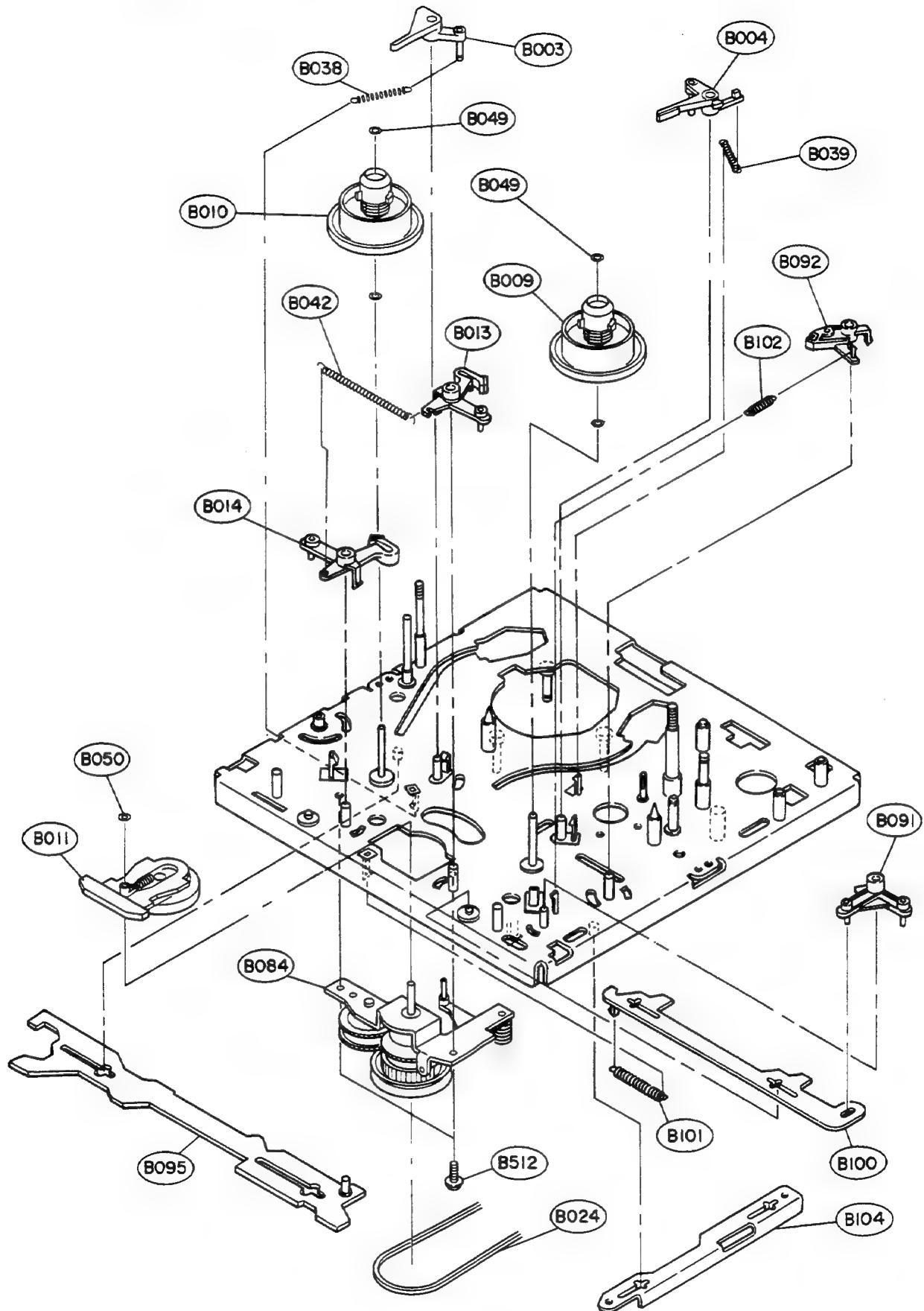
5-1. CABINET SECTION

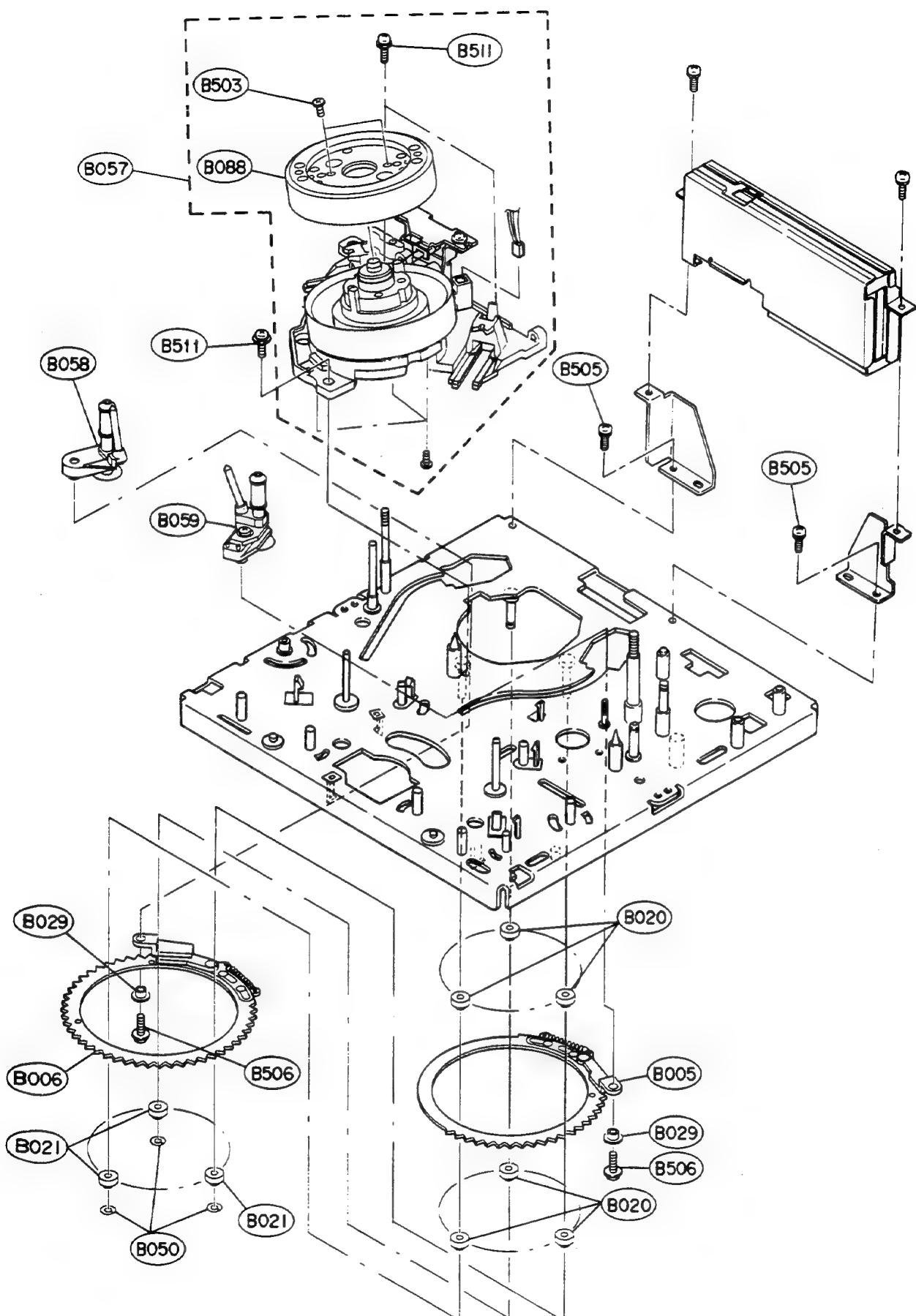


5-2. CHASSIS SECTION

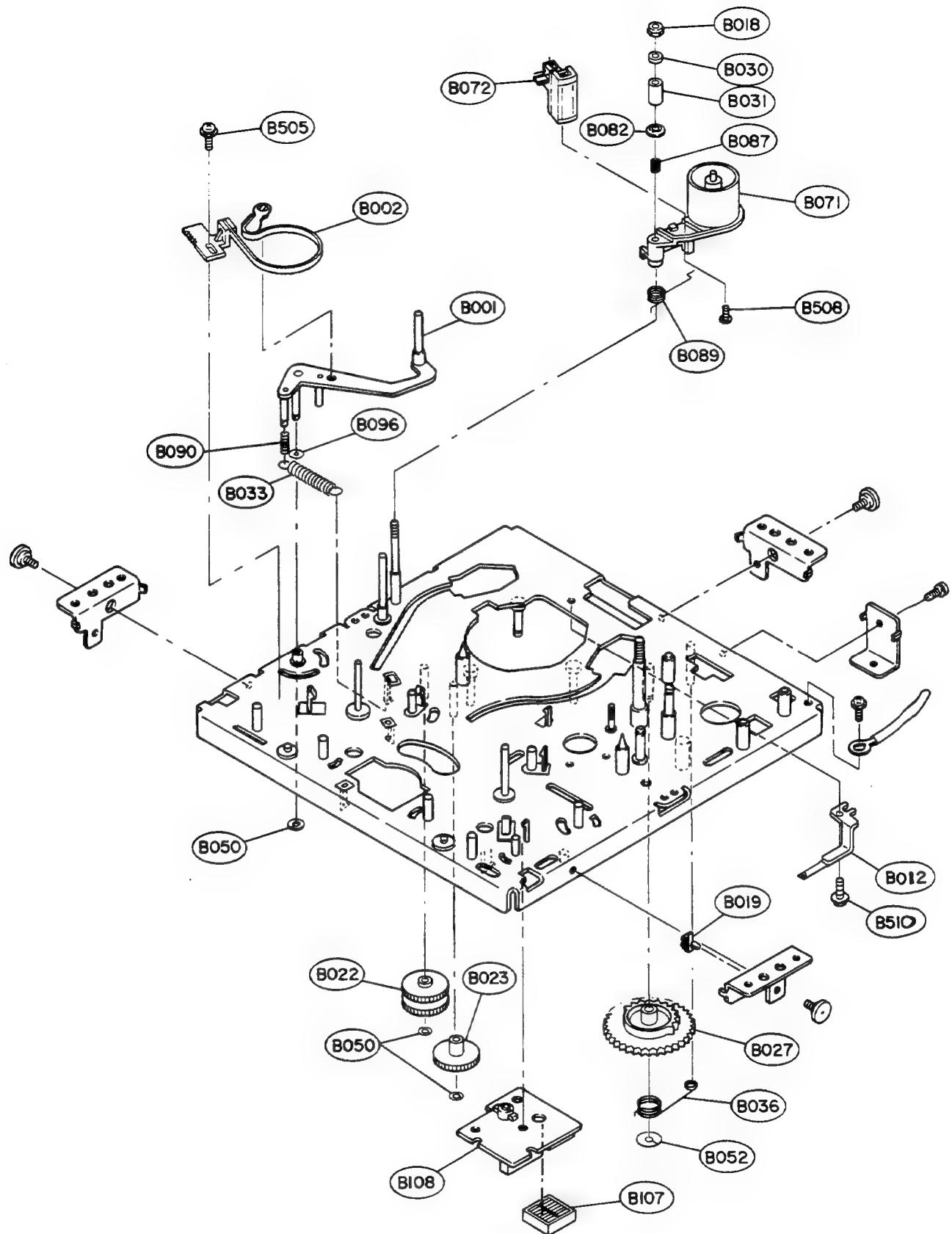


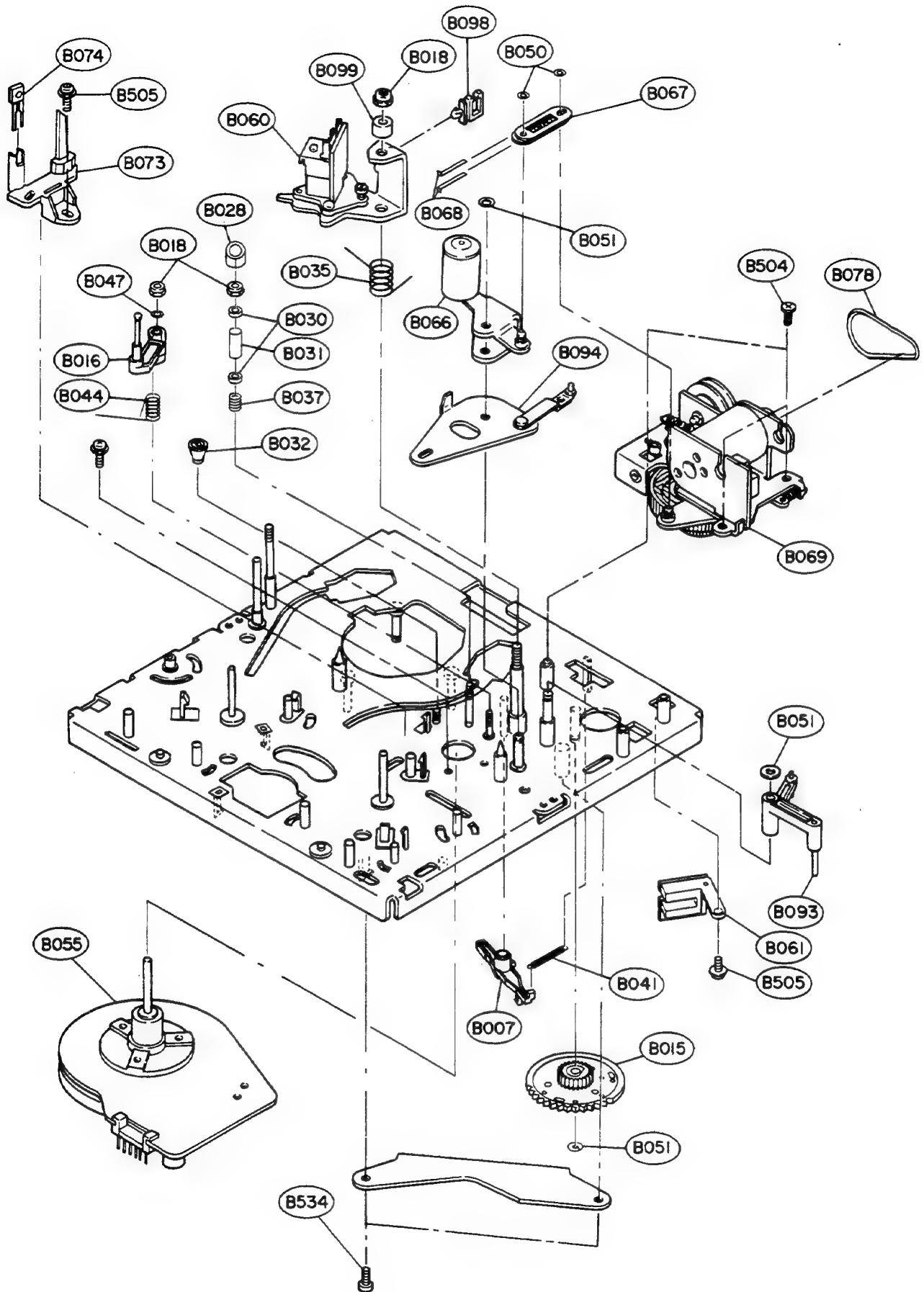
5-3. MECHANISM (I) SECTION



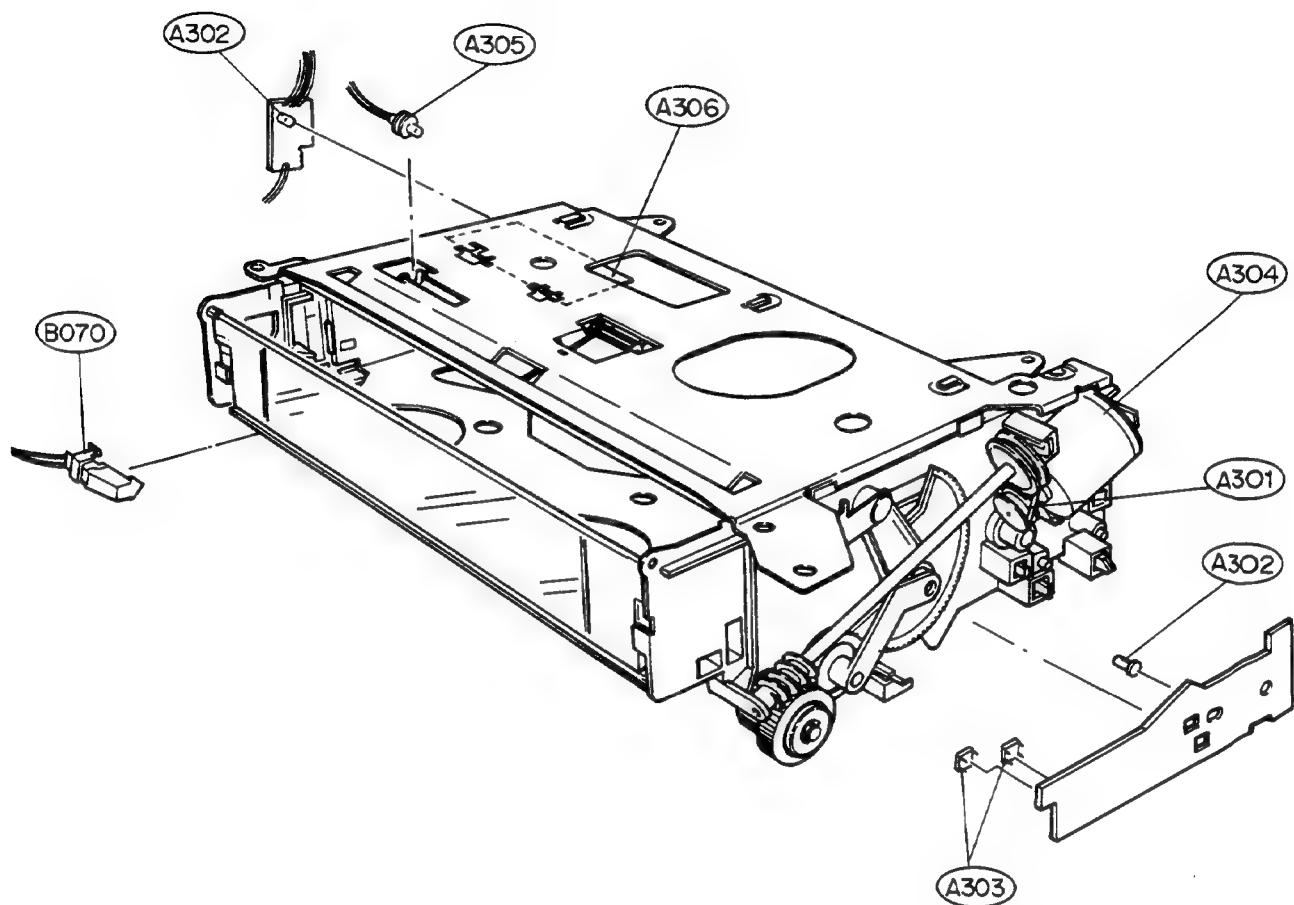


5-4. MECHANISM (II) SECTION

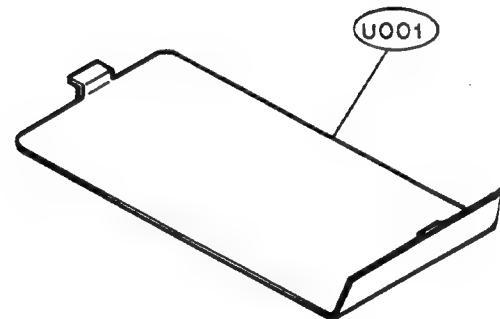
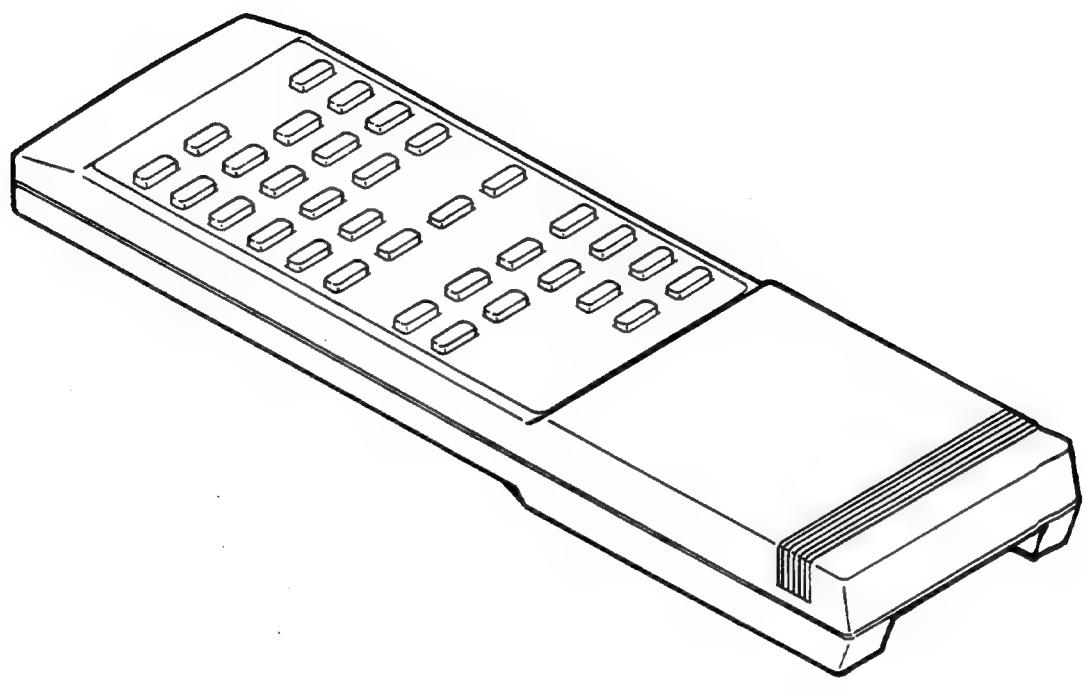




5-5. CASSETTE HOUSING SECTION



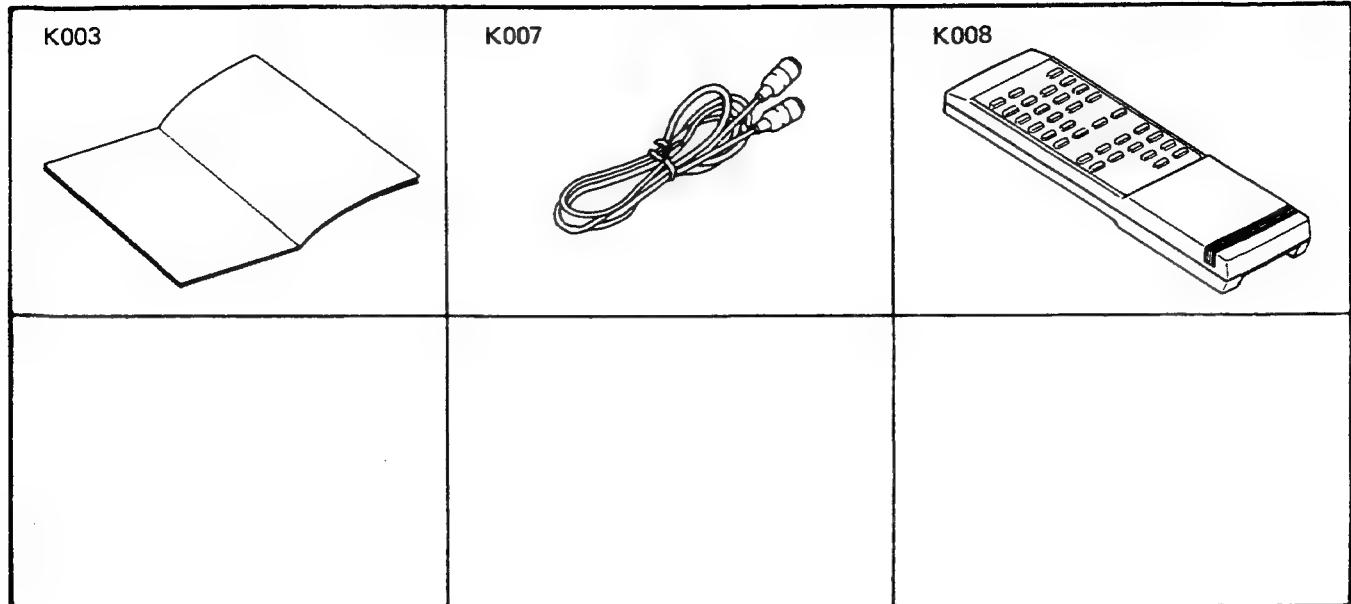
5-6. WIRELESS REMOTE CONTROL SECTION



WIRELESS REMOTE CONTROL PARTS LIST

SYMBOL	PART NO.	DESCRIPTION	Q'TY
U001	18940256	BATTERY CASE	1

5-7. ACCESSORIES



REF. NO	PART NO.	DESCRIPTION
K003	78816751	INSTRUCTION MANUAL
K007	79559054	IEC RF CABLE (1.2M)
K008	79799463	WIRESS REMOTE CONTROL UNIT

SECTION 6

REPLACEMENT PARTS LIST

(87. 07. 07)

ASSEMBLY	PAGE
SYS/SER/VID PWB ASSEMBLY	6-2
NORMAL AUDIO PWB ASSEMBLY	6-5
TIMER/FUNCTION PWB ASSEMBLY	6-6
SUB FUNCTION PWB ASSEMBLY	6-7
TUNER/IF PWB ASSEMBLY	6-8
PRE AMP PWB ASSEMBLY	6-9
ON SCREEN PWB ASSEMBLY	6-10
DIGITAL PWB ASSEMBLY	6-11
VPS DECODER PWB ASSEMBLY	6-13
CHASSIS PWB ASSEMBLY	6-14
MECANICAL PWB ASSEMBLY	6-14
SET PWB ASSEMBLY	6-16
PACKING PWB ASSEMBLY	6-16
POWER REGULATOR PWB ASSEMBLY	6-16
JACK TERMINAL PWB ASSEMBLY	6-17
CASSETTE HOUSING ASSEMBLY	6-17

MODEL : SYS/SER/VID PWB ASSY

MODEL : SYS/SER/VID PWB ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
***	IC5 ***		
IC1604	37101117	JC UPC324C	1
IC1612	37101127	JC UPC-393C	1
IC1207	37101159	LA7016 ANALOG SW	1
IC1402	37101249	HA7025L (SFCAFM DET)	1
IC1206	37101288	JC HA17805	1
IC1201	37101312	JC AN3215K (RFIC Y-PROCESS)	1
IC1202	37101312	JC AN3218 (PH Y PROCESS)	1
IC1603	37101323	JC DA15218 (OP AMP)	1
IC1208	37101324	JC LA73C8	1
IC1401	37101334	JC PAL CHROMA(6163,6367)	1
IC1403	37151254	JC TK15061Z	1
IC1163	37151267	POS MN1200R VOLTAGE DET	1
IC1401	37151329	POS BU2778S	1
IC1102	37151334	JC RA6246	1
IC1101	37151380	POS UPD75108CW-067 0700S3	1
IC1602	37901159	JC P5218 P (DIP)	1
IC1605	37910121	POS UPD066BC(ESD)	1
IC1613	37904007	POS-UPD64011	2
***	TRANSISTORS ***		
TP1611	350165616	TP-2SD882 P	1
TP12C3	TP1209	TP1211	16
TP1235	TP1236	TP1246	
TP1255	TP1402	TP1404	
TP1407	TP1409	TP1410	
TP1411	TP1601	TP1405	
TP1610	TP12C6	TP1207	14
TP1212	TP1221	TP1234	
TP1242	TP1245	TP1267	
TP1252	TP1254	TP1413	
TP1415	TP1419	TP1603	8
TP11C7	TP1609	TP1412	
TP11C8	TP1603	TP1606	
TP1415	TP1419	TP2717	
TP1614	TP1615	TR-RA114M	
TP1240	TP1241	TP1603	
TP1216	TP1618	TP2SA1175 (E,f,H,d)	4
TP11C1	TP1242	355K2110 UN1F4M (A,22K) AT	2
TP12C8	TP1213	355K2113 DTR UN4122(CPNP 4.7K) AT	5
TP1253	TP1418		
TP1615	TP1623	355021C5 TR-DTA144 S	2
TP1617	TP1618	35542711 DTC 144ES	4
TP1612			
TP11C7	35542518	TR 2SD1227M R	1

SYMBOL	PARTS NO	DESCRIPTION	QTY	
***	IC5 ***			
IC1601	D1607	D16C3	360UKAU09 DIODE 152473 AT26	1
IC1612	D1101	D1103	36UKAF25 DIODE,155133	26
IC1207	D1223	D1224		
IC1402	D1401	D1402	D1605	
IC1206	D1606	D1607	D1608	
IC1201	D1610	D1611	D1612	
IC1202	D1616	D1618	D1619	
IC1603	D1620	D1621	D1630	
IC1208	D1631	D1632	D1635	
IC1401	D1107	D1108	360UKC972 DIODE MA165 AT26	4
IC1403	D1202	D1633	360UK01025 DIODE 155133	1
IC1163	D1637	D1107	360UKF167 ZENER DIODE RD6.2EB2,AT26	1
IC1401	D1109	D1134	360UKF1025 360UKF167 ZENER DIODE RD16EE2,AT26	1
IC1602	X11C1	RM11C1	360UF023 4.10MHZ RESONATOR	1
IC1605	RM11C2	RM11C2	39906127 RPL0CK100K*4 1.8MH 1/16W	1
IC1613	VR12C1	VR12C1	39906128 RPL0CK100K*5 1.8MH 1/16W	1
***	VARIAPILE RESISTORS ***			
VR1611	VR1205	VR1205	41951147 R-VARIAHLE 6.8K, B	1
TP12C3	VR14C2	VR14C2	41951148 R-VARIAHLE 2.2K, B	1
TP1235	VR12C4	VR12C4	41951149 R-VARIAHLE 2.2K, B	1
TP1255	VR12C2	VR12C2	41951150 R-VARIAHLE 22K, B	2
TP1407	VR12C3	VR12C3	41951152 R-VARIAHLE 47K, B	2
TP1411	VR1401	VR1401	41951249 R-VARIAHLE 2.2KB	1
TP1610	VR1601	VR1601	41951261 R-VARIAHLE 100KB	2
TP1212	VR1603	VR1603	41951262 R-VARIAHLE 330KB	2
***	COILS & FILTERS ***			
TP1415	L11601	L11601	€1061520 FILTER COIL 1000UH AT (S)	1
TP1614	L11205	L11404	€1061545 FILTER COIL 2200UH	2
TP1240	L1409	L1207	€1061419 FILTER COIL 0405 15UH,AT	1
TP1216	L1206	L1219	€1061420 FILTER COIL 0405 18UH,AT	2
TP11C1	L1408	L1408	€1061425 FILTER COIL 0405 47UH,AT	4
TP12C8	L1202	L1204	€11161829 FILTER COIL 0405 100UH,AT	10
TP1253	L1216	L1217	€11161830 FILTER COIL 0405 120UH,AT	1
TP1615	L1407	L1410	€11161832 FILTER COIL 0405 220UH,AT	1
TP1617	L1211	L1211	€1061P30 FILTER COIL C405 120UH,AT	1
TP1612	L1403	L1403	€1061P32 FILTER COIL 0405 220UH,AT	1

MODEL : SYS/SER/VID PUB ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
U1402 CF1401	61061835 61137019	FILTER COIL 0405 330UH,AT CERAMIC FILTER 4.16MHz	1
DL1401	61551046	DELAY (COMB FILTER)	1
DL1202	61551081	1NDL(PAL,NO1-CAN)LOW-H	1
FL1201	61827038	3.2MHz L.P.F	1
FL1402	61827066	PAL 2IN1 FILTER(5.06,1.4MHz)	1
FL1401	61827067	4.43MHz BPF (3435)	1
11401	61828016	LC FILTER (8KHZ TRAP)	1
*** PWR ASSYS ***			
	81674001	PWR SLOW-TIPPING PUV-1384	1
	81674N01	SUB SYSCON-6 ASSY	1
*** ELECTRICAL PARTS & MISCELLANEOUS PARTS ***			
X1401	64006143	**TOTAL 4.43MHz (W/O-ADJ)	1
*** APPEARANCE PARTS ***			
	16286631	PWR HINGE	1
	16286931	BAND WHITE	2
	16288281	WIRETAP POST (STYLE PIN)	3
	16288391	PWP BRACKET(H7)	1
	16582241	HEAT SINK(2)	1
	16631101	SHEET	1
	16875531	SCREW M3x8+15BF	1
*** RESISTORS ***			
R1344	401KE643	R,CARRON 56H 5% 1/6W	1
R1248	401KE651	R,CARRON 12CH 5% 1/6W	1
R1245	401KE651	R,CARRON 150H 5% 1/6W	1
R1114	R11117	R,CARRON 22CH 5% 1/6W	1
R1415	R1673	401KE659 R,CARRON 27CH 5% 1/6W	1
R1246		401KE661 R,CARRON 330H 5% 1/6W	1
R1421		401KE663 R,CARRON 390H 5% 1/6W	2
R1245	R1253	R,CARRON 470H 5% 1/6W	2
R1413	R1420	401KE665 R,CARRON 51CH 5% 1/6W	1
R1236		401KE666 R,CARRON 56CH 5% 1/6W	1
R1453		401KE667 R,CARRON 56CH 5% 1/6W	1
R1136	R1225	401KE669 R,CARRON 68CH 5% 1/6W	5
R1240	R1633	401KE670 R,CARRON 750H 5% 1/6W	1
R1400		401KE671 R,CARRON 820H 5% 1/6W	2
R1226	R1429	401KE673 R,CARRON 1.0K 5% 1/6W	20
R1132	R1130	401KE673 R,CARRON 1.0K 5% 1/6W	4

P09FL : SYS/SER/VID PWR ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY	
R1213	R1219	401KE673 R,CARRON 1.0K 5% 1/6W	20	
R1310	R1414	R,CARRON 1.41% 1/6W	1	
R1417	R1423	R1424	1	
R1426	R143P	R1447	1	
R143C	R1629	R1675	1	
R1718	R1753		1	
R1252	R1258	R1371	401KE675 R,CARRON 1.2K 5% 1/6W	5
R1412	R1619	R12PC	401KE677 R,CARRON 1.5K 5% 1/6W	6
R1259	R1313	R1722	401KE678 R,CARRON 1.8K 5% 1/6W	7
R1215	R121P	R12F2		7
R12P3	R1404	R1670		7
R1719	R1211	401KE681 R,CARRON 2.2K 5% 1/6W	12	
R1207	R121C	R1247	401KE682 R,CARRON 2.47K 5% 1/6W	14
R1314	R1365	R1441	R1444	14
R1425	R1441	R1646	R1647	14
R1403	R1622	R1625	401KE683 R,CARRON 2.7K 5% 1/6W	14
R1106	R110C	R111C	401KE685 R,CARRON 3.3K 5% 1/6W	14
R111C	R1111	R1112		14
R1112	R1112	R1127		14
R1128	R1129	R1135		14
R1649	R1649	R12PC	401KE689 R,CARRON 4.07K 5% 1/6W	9
R129C	R1317	R1411		9
R143C	R1623	R1667		9
R1683	R1752	R1756		9
R125C	R1767	R142F		9
R1432	R1432	R1451		9
R1661	R1677	R1655	401KE691 R,CARRON 5.6K 5% 1/6W	6
R14C5	R1619	R1660	R1694	6
R1657	R1660	R1672	401KE692 R,CARRON 6.8K 5% 1/6W	4
R1426	R1672	R1721		4
R1726				14
R1123	R1124	R1201	401KE697 R,CARRON 10K 5% 1/6W	14
R129C	R129P	R129P		14
R1312	R1315	R1754		14
R1362	R144F	R144F		14
R14C1	R141C	R1437	401KE699 R,CARRON 12K 5% 1/6W	7
R1221	R1467	R1621	R1640	7
R1649	R1649	R1649		7
R1664	R1664	R1672	401KE702 R,CARRON 1PK 5% 1/6W	4
R1626	R1631	R1715	R1715	4
R1237	R1237	R1307	401KE705 R,CARRON 22K 5% 1/6W	7
R13C4	R1445	R1445		7
R1754				7
R1675	R1676	R1701	401KE707 R,CARRON 27K 5% 1/6W	2
R17C0	R17C1	R16P7	R16P7	2
R1676	R1676	R1666	R1666	2
R1612	R1612	R17C1	401KE711 R,CARRON 33K 5% 1/6W	4

MODEL : SYS/SEP/VID PWR ASSY

MODEL : SYS/VID PWR ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
R1755	R1107	R1668	401KF713
R1104	R1731	R1732	401KF714
R1652			R-CARBON 51K 5% 1/6W
R1627	R1674		R-CARBON 51K 5% 1/6W
R1604	R1607		401KF715
R1603	R1605	R1716	401KF717
R1105	R1116	R1119	401KF719
R1121	R1134	R1408	401KF721
R1405	R1422	R1434	
R1422	R1454	R1636	
R1658	R1717	R1720	401KF725
R1443	R1467	R1691	P-CARBON 150K 5% 1/6W
R1222	R1655		401KF727
R1686			R-CARBON 180K 5% 1/6W
R1620			401KF728
R1609			R-CARBON 200K 5% 1/6W
R1641			401KF734
R1611	R1749		401KF735
R1650			R-CARBON 390K 5% 1/6W
R1645			401KF737
R1730	R1645	R1652	401KF738
R1427	R1645		401KF759
R1642			401KF765
R1733			4010N1585
R1372			4010N587
R1442			4010N5891
R1455			4010N5709
R1120			4010N5728
R1102			40351109
R1602			4080N9801
R1437			4094H661
R1366			4094H649
R1225			4094H657
R1101			4094H665
R1614			4094H670
R1622			4094H671
R1365			4094H673
R1220			4094H675
R1316			4094H681
R1615			4094H685
R1618			4094H686
R1406			4094H693
R1681	R1724		4094H697
R1613			4094H699
R1431			4094H705
R1357			4094H717
R1725			4094H721

SYMBOL	PARTS NO	DESCRIPTION	QTY
R1638			4019HH725
			R-CARRON 150K 5% 1/6W
R1642			4019HP734
R1630			R-CARBON 360K 5% 1/4W
R1608	R1685		4019HH751
R1102			R-CARBON 1.2M 5% 1/4W
R1669			4019HH761
			R-CARBON 4.7M 5% 1/4W
			4098P649
			R-CARBON 100H 5% 1/4W
			4019HH725
			R-CERAMIC 50V 0.047UF
			421AU937
			C-CERAMIC 50V 12PF
			421CHC15
			C-CERAMIC 50V 15PF
			421CHC17
			C-CERAMIC 50V 18PF
			421CHC19
			C-CERAMIC 50V 39PF
			421CHC027
			C-CERAMIC 50V 56PF
			421CHC031
			C-CERAMIC 50V 82PF
			421CHC035
			C-CFRAMIC 50V 100PF
			421CHC037
			C-CERAMIC 50V 120PF
			421CHC38
			C-CERAMIC 50V 150PF
			421CHC039
			C-CERAMIC 50V 270PF
			421CHC41
			C-CERAMIC 50V 220PF
			421CHC42
			C-CERAMIC 50V 390PF
			421CHC44
			C-CERAMIC 50V 470PF
			421CHC45
			C-CERAMIC 50V 680PF
			421CHC47
			C-CERAMIC 50V 740PF
			421CHC49
			C-CERAMIC 50V 1000PF
			421CHC50
			C-CERAMIC 50V 4.7PF
			421CHC51
			C-CERAMIC 50V 100PF
			421CHC52
			C-CFRAMIC 50V 150PF
			421CHC53
			C-CERAMIC 50V 180PF
			421CHC54
			C-CERAMIC 50V 220PF
			421CHC55
			C-CERAMIC 50V 330PF
			421CHC56
			C-CERAMIC 50V 470PF
			421CHC57
			C-CERAMIC 50V 680PF
			421CHC58
			C-CERAMIC 50V 740PF
			421CHC59
			C-CERAMIC 50V 800PF
			421CHC60
			C-CERAMIC 50V 1000PF
			421CHC61
			C-CERAMIC 50V 1200PF
			421CHC62
			C-CERAMIC 50V 1400PF
			421CHC63
			C-CERAMIC 50V 1600PF
			421CHC64
			C-CERAMIC 50V 1800PF
			421CHC65
			C-CERAMIC 50V 2000PF
			421CHC66
			C-CERAMIC 50V 2200PF
			421CHC67
			C-CERAMIC 50V 2400PF
			421CHC68
			C-CERAMIC 50V 2600PF
			421CHC69
			C-CERAMIC 50V 2800PF
			421CHC70
			C-CERAMIC 50V 3000PF
			421CHC71
			C-CERAMIC 50V 3200PF
			421CHC72
			C-CERAMIC 50V 3400PF
			421CHC73
			C-CERAMIC 50V 3600PF
			421CHC74
			C-CERAMIC 50V 3800PF
			421CHC75
			C-CERAMIC 50V 4000PF
			421CHC76
			C-CERAMIC 50V 4200PF
			421CHC77
			C-CERAMIC 50V 4400PF
			421CHC78
			C-CERAMIC 50V 4600PF
			421CHC79
			C-CERAMIC 50V 4800PF
			421CHC80
			C-CERAMIC 50V 5000PF
			421CHC81
			C-CERAMIC 50V 5200PF
			421CHC82
			C-CERAMIC 50V 5400PF
			421CHC83
			C-CERAMIC 50V 5600PF
			421CHC84
			C-CERAMIC 50V 5800PF
			421CHC85
			C-CERAMIC 50V 6000PF
			421CHC86
			C-CERAMIC 50V 6200PF
			421CHC87
			C-CERAMIC 50V 6400PF
			421CHC88
			C-CERAMIC 50V 6600PF
			421CHC89
			C-CERAMIC 50V 6800PF
			421CHC90
			C-CERAMIC 50V 7000PF
			421CHC91
			C-CERAMIC 50V 7200PF
			421CHC92
			C-CERAMIC 50V 7400PF
			421CHC93
			C-CERAMIC 50V 7600PF
			421CHC94
			C-CERAMIC 50V 7800PF
			421CHC95
			C-CERAMIC 50V 8000PF
			421CHC96
			C-CERAMIC 50V 8200PF
			421CHC97
			C-CERAMIC 50V 8400PF
			421CHC98
			C-CERAMIC 50V 8600PF
			421CHC99
			C-CERAMIC 50V 8800PF
			421CHC100
			C-CERAMIC 50V 9000PF
			421CHC101
			C-CERAMIC 50V 9200PF
			421CHC102
			C-CERAMIC 50V 9400PF
			421CHC103
			C-CERAMIC 50V 9600PF
			421CHC104
			C-CERAMIC 50V 9800PF
			421CHC105
			C-CERAMIC 50V 10000PF
			421CHC106
			C-CERAMIC 50V 10200PF
			421CHC107
			C-CERAMIC 50V 10400PF
			421CHC108
			C-CERAMIC 50V 10600PF
			421CHC109
			C-CERAMIC 50V 10800PF
			421CHC110
			C-CERAMIC 50V 11000PF
			421CHC111
			C-CERAMIC 50V 11200PF
			421CHC112
			C-CERAMIC 50V 11400PF
			421CHC113
			C-CERAMIC 50V 11600PF
			421CHC114
			C-CERAMIC 50V 11800PF
			421CHC115
			C-CERAMIC 50V 12000PF
			421CHC116
			C-CERAMIC 50V 12200PF
			421CHC117
			C-CERAMIC 50V 12400PF
			421CHC118
			C-CERAMIC 50V 12600PF
			421CHC119
			C-CERAMIC 50V 12800PF
			421CHC120
			C-CERAMIC 50V 13000PF
			421CHC121
			C-CERAMIC 50V 13200PF
			421CHC122
			C-CERAMIC 50V 13400PF
			421CHC123
			C-CERAMIC 50V 13600PF
			421CHC124
			C-CERAMIC 50V 13800PF
			421CHC125
			C-CERAMIC 50V 14000PF
			421CHC126
			C-CERAMIC 50V 14200PF
			421CHC127
			C-CERAMIC 50V 14400PF
			421CHC128
			C-CERAMIC 50V 14600PF
			421CHC129
			C-CERAMIC 50V 14800PF
			421CHC130
			C-CERAMIC 50V 15000PF
			421CHC131
			C-CERAMIC 50V 15200PF
			421CHC132
			C-CERAMIC 50V 15400PF
			421CHC133
			C-CERAMIC 50V 15600PF
			421CHC134
			C-CERAMIC 50V 15800PF
			421CHC135
			C-CERAMIC 50V 16000PF
			421CHC136
			C-CERAMIC 50V 16200PF
			421CHC137
			C-CERAMIC 50V 16400PF
			421CHC138
			C-CERAMIC 50V 16600PF
			421CHC139
			C-CERAMIC 50V 16800PF
			421CHC140
			C-CERAMIC 50V 17000PF
			421CHC141
			C-CERAMIC 50V 17200PF
			421CHC142
			C-CERAMIC 50V 17400PF
			421CHC143
			C-CERAMIC 50V 17600PF
			421CHC144
			C-CERAMIC 50V 17800PF
			421CHC145
			C-CERAMIC 50V 18000PF
			421CHC146
			C-CERAMIC 50V 18200PF
			421CHC147
			C-CERAMIC 50V 18400PF
			421CHC148
			C-CERAMIC 50V 18600PF
			421CHC149
			C-CERAMIC 50V 18800PF
			421CHC150
			C-CERAMIC 50V 19000PF
			421CHC151
			C-CERAMIC 50V 19200PF
			421CHC152
			C-CERAMIC 50V 19400PF
			421CHC153
			C-CERAMIC 50V 19600PF
			421CHC154
			C-CERAMIC 50V 19800PF
			421CHC155
			C-CERAMIC 50V 20000PF
			421CHC156
			C-CERAMIC 50V 20200PF
			421CHC157
			C-CERAMIC 50V 20400PF
			421CHC158
			C-CERAMIC 50V 20600PF
			421CHC159
			C-CERAMIC 50V 20800PF
			421CHC160
			C-CERAMIC 50V 21000PF
			421CHC161
			C-CERAMIC 50V 21200PF
			421CHC162
			C-CERAMIC 50V 21400PF
			421CHC163
			C-CERAMIC 50V 21600PF
			421CHC164

MODEL : SYS/SFR/VID PWB ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
C1107	421C0217	C-CERAMIC SCV 2200PF	1
C1309	42132461	C-CERAMIC 16V 0.01UF	1
C1654	42132963	C-CERAMIC 16V 0.022UF	1
C1405	429C0333	C-CERAMIC 25V 0.047UF	2
C1245	429C0337	C-CERAMIC 25V 0.1UF	1
C1275	42966547	C022V1H561J-AT	1
C1603	42966912	C-FILM 50V 0.082UF	2
C1290	42966913	C-FILM 50V 0.1UF	2
C1632	42966915	C-METAL FILM 50V 0.15UF	1
C1753	42966916	C-METAL FILM 50V 0.18UF	1
C1751	42966917	C-METAL FILM 50V 0.22UF	1
C1625	42966919	C-METAL FILM 50V 0.33UF	1
C1650	42968261	C-METAL FILM 50V 6800PF	1
C1619	42968267	C-METAL FILM 50V 0.01UF	1
C1622	C1630	42968269 C-METAL FILM 50V 0.033UF	3
C1243	429676731	C-FILM 50V 0.33 UF 5X	1
C1623	42976813	C-METAL FILM 50V 0.1UF	1
C1651	42978161	C-METAL FILM 50V 6800PF	1
C1621	42978168	C-METAL FILM 50V 0.027UF	1
C1274	C1752	430A8101 C-EELEC 6.3V 22UF	2
C1233	C1241	430A8102 C-EELEC 6.3V 47UF	15
C1258	C1304	C1287	1
C1422	C1434	C1403	1
C1440	C1406	C1439	1
C1642	C1647	C1652	1
C1105	C1207	C1306	1
C1421	C1605	C1607	1
C1610	C1611	430A81C5 C-EELEC 10V 22UF	1
C1624	430A81C5	C-EELEC 10V 22UF	1
C1276	430A8107	C-EELEC 10V 47UF	1
C1289	C1292	430A8109 C-EELEC 16V 10UF	6
C1432	C1614	C1616	1
C1635	C1645	430A8111 C-EELEC 16V 130UF	1
C1436	430A8112	C-EELEC 16V 47UF	1
C1286	430A8117	C-EELEC 16V 100UF	1
C1104	420A8117	C-EELEC 16V 100UF	1
C1222	430A8114	C-EELEC 25V 4.7UF	1
C1601	430A8118	C-EELEC 25V 47UF	1
C1276	C1267	430A8119 C-EELEC 35V 3-30UF	1
C1404	430A8125	C-EELEC 50V 0.22UF	1
C1216	C1228	430A8128 C-EELEC 50V 10UF	7
C1604	C1612	C1616	1
C1751	C1725	C1737	1
C1112	C1725	C1608129 C-EELEC 50V 2.2UF	3
C1620	430A8144	C-EELEC 6.3V 220UF,AT	1
C1753	430A8128	C-EELEC 50V 1UF	1
C1770	430A8104	C-EELEC 50V 3.3UF-5085RA,AT	1
C1634	430A8021	C-EELEC 50V 1UF	1
C1602	430A833C	C-EELEC 6.3V 470UF	2

MODEL : NORMAL AUDIO PWB ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
IC4RC1		37101311 IC 1A7C98 (AUDIO)	1
VR4CC7		4195124C P-VARIABLE 2.2KP	1
VR4CF01		41951254 R-VARIABLE 10KB	1
TR4CC1		75055712 IR 2SC7C01 1	1
		*** VARIABLE RESISTORS ***	
		*** TRANSISTORS ***	
		*** COILS & FILTERS ***	
		140C02 FILTER COIL 8222J,AT	2
		140C03 FILTER COIL 4700H AT(S)	1
		140C01 OSC COIL	1
		*** APPARANCE PARTS ***	
		16445402 SLIDE WINGE	?
		*** RESISTORS ***	
		401K16125 R-CARBON 1UH 5X 1/6W	1
		401K16121 R-CARBON 12H 5A 1/6W	1
		401K16123 R-CARBON 56H 5Z 1/6W	1
		401K16162 R-CARBON 560H 5Z 1/6W	1
		401K16167 R-CARBON 1.0K 5Z 1/6W	1
		401K16177 R-CARBON 1.0K 5Z 1/6W	2
		401K16175 R-CARBON 1.2K 5Z 1/6W	1
		401K16171 R-CARBON 2.2K 5Z 1/6W	1
		401K16172 R-CARBON 3.9K 5Z 1/6W	1
		401K16179 R-CARBON 4.7K 5Z 1/6W	1
		401K16196 R-CARBON 9.1K 5Z 1/6W	1
		401K16175 R-CARBON 22K 5Z 1/6W	1
		401K16171 R-CARBON 47K 5Z 1/6W	1
		401K16174 R-CARBON 6.8K 5Z 1/6W	1
		401K16176 R-CARBON 1.1K 5Z 1/6W	1
		401K16177 R-CARBON 1.5K 5Z 1/6W	1
		401K16178 R-CARBON 1.8K 5Z 1/6W	1
		401K16179 R-CARBON 2.5K 5Z 1/6W	1
		401K16170 R-CARBON 3.2K 5Z 1/6W	1
		401K16171 R-CARBON 4.0K 5Z 1/6W	1
		401K16172 R-CARBON 5.0K 5Z 1/6W	1
		401K16173 R-CARBON 6.0K 5Z 1/6W	1
		401K16174 R-CARBON 7.0K 5Z 1/6W	1
		401K16175 R-CARBON 8.0K 5Z 1/6W	1
		401K16176 R-CARBON 9.0K 5Z 1/6W	1
		401K16177 R-CARBON 10.0K 5Z 1/6W	1
		401K16178 R-CARBON 11.0K 5Z 1/6W	1
		401K16179 R-CARBON 12.0K 5Z 1/6W	1
		401K16170 R-CARBON 13.0K 5Z 1/6W	1
		401K16171 R-CARBON 14.0K 5Z 1/6W	1
		401K16172 R-CARBON 15.0K 5Z 1/6W	1
		401K16173 R-CARBON 16.0K 5Z 1/6W	1
		401K16174 R-CARBON 17.0K 5Z 1/6W	1
		401K16175 R-CARBON 18.0K 5Z 1/6W	1
		401K16176 R-CARBON 19.0K 5Z 1/6W	1
		401K16177 R-CARBON 20.0K 5Z 1/6W	1
		401K16178 R-CARBON 21.0K 5Z 1/6W	1
		401K16179 R-CARBON 22.0K 5Z 1/6W	1
		401K16170 R-CARBON 23.0K 5Z 1/6W	1
		401K16171 R-CARBON 24.0K 5Z 1/6W	1
		401K16172 R-CARBON 25.0K 5Z 1/6W	1
		401K16173 R-CARBON 26.0K 5Z 1/6W	1
		401K16174 R-CARBON 27.0K 5Z 1/6W	1
		401K16175 R-CARBON 28.0K 5Z 1/6W	1
		401K16176 R-CARBON 29.0K 5Z 1/6W	1
		401K16177 R-CARBON 30.0K 5Z 1/6W	1
		401K16178 R-CARBON 31.0K 5Z 1/6W	1
		401K16179 R-CARBON 32.0K 5Z 1/6W	1
		401K16170 R-CARBON 33.0K 5Z 1/6W	1
		401K16171 R-CARBON 34.0K 5Z 1/6W	1
		401K16172 R-CARBON 35.0K 5Z 1/6W	1
		401K16173 R-CARBON 36.0K 5Z 1/6W	1
		401K16174 R-CARBON 37.0K 5Z 1/6W	1
		401K16175 R-CARBON 38.0K 5Z 1/6W	1
		401K16176 R-CARBON 39.0K 5Z 1/6W	1
		401K16177 R-CARBON 40.0K 5Z 1/6W	1
		401K16178 R-CARBON 41.0K 5Z 1/6W	1
		401K16179 R-CARBON 42.0K 5Z 1/6W	1
		401K16170 R-CARBON 43.0K 5Z 1/6W	1
		401K16171 R-CARBON 44.0K 5Z 1/6W	1
		401K16172 R-CARBON 45.0K 5Z 1/6W	1
		401K16173 R-CARBON 46.0K 5Z 1/6W	1
		401K16174 R-CARBON 47.0K 5Z 1/6W	1
		401K16175 R-CARBON 48.0K 5Z 1/6W	1
		401K16176 R-CARBON 49.0K 5Z 1/6W	1
		401K16177 R-CARBON 50.0K 5Z 1/6W	1
		401K16178 R-CARBON 51.0K 5Z 1/6W	1
		401K16179 R-CARBON 52.0K 5Z 1/6W	1
		401K16170 R-CARBON 53.0K 5Z 1/6W	1
		401K16171 R-CARBON 54.0K 5Z 1/6W	1
		401K16172 R-CARBON 55.0K 5Z 1/6W	1
		401K16173 R-CARBON 56.0K 5Z 1/6W	1
		401K16174 R-CARBON 57.0K 5Z 1/6W	1
		401K16175 R-CARBON 58.0K 5Z 1/6W	1
		401K16176 R-CARBON 59.0K 5Z 1/6W	1
		401K16177 R-CARBON 60.0K 5Z 1/6W	1
		401K16178 R-CARBON 61.0K 5Z 1/6W	1
		401K16179 R-CARBON 62.0K 5Z 1/6W	1
		401K16170 R-CARBON 63.0K 5Z 1/6W	1
		401K16171 R-CARBON 64.0K 5Z 1/6W	1
		401K16172 R-CARBON 65.0K 5Z 1/6W	1
		401K16173 R-CARBON 66.0K 5Z 1/6W	1
		401K16174 R-CARBON 67.0K 5Z 1/6W	1
		401K16175 R-CARBON 68.0K 5Z 1/6W	1
		401K16176 R-CARBON 69.0K 5Z 1/6W	1
		401K16177 R-CARBON 70.0K 5Z 1/6W	1
		401K16178 R-CARBON 71.0K 5Z 1/6W	1
		401K16179 R-CARBON 72.0K 5Z 1/6W	1
		401K16170 R-CARBON 73.0K 5Z 1/6W	1
		401K16171 R-CARBON 74.0K 5Z 1/6W	1
		401K16172 R-CARBON 75.0K 5Z 1/6W	1
		401K16173 R-CARBON 76.0K 5Z 1/6W	1
		401K16174 R-CARBON 77.0K 5Z 1/6W	1
		401K16175 R-CARBON 78.0K 5Z 1/6W	1
		401K16176 R-CARBON 79.0K 5Z 1/6W	1
		401K16177 R-CARBON 80.0K 5Z 1/6W	1
		401K16178 R-CARBON 81.0K 5Z 1/6W	1
		401K16179 R-CARBON 82.0K 5Z 1/6W	1
		401K16170 R-CARBON 83.0K 5Z 1/6W	1
		401K16171 R-CARBON 84.0K 5Z 1/6W	1
		401K16172 R-CARBON 85.0K 5Z 1/6W	1
		401K16173 R-CARBON 86.0K 5Z 1/6W	1
		401K16174 R-CARBON 87.0K 5Z 1/6W	1
		401K16175 R-CARBON 88.0K 5Z 1/6W	1
		401K16176 R-CARBON 89.0K 5Z 1/6W	1
		401K16177 R-CARBON 90.0K 5Z 1/6W	1
		401K16178 R-CARBON 91.0K 5Z 1/6W	1
		401K16179 R-CARBON 92.0K 5Z 1/6W	1
		401K16170 R-CARBON 93.0K 5Z 1/6W	1
		401K16171 R-CARBON 94.0K 5Z 1/6W	1
		401K16172 R-CARBON 95.0K 5Z 1/6W	1
		401K16173 R-CARBON 96.0K 5Z 1/6W	1
		401K16174 R-CARBON 97.0K 5Z 1/6W	1
		401K16175 R-CARBON 98.0K 5Z 1/6W	1
		401K16176 R-CARBON 99.0K 5Z 1/6W	1
		401K16177 R-CARBON 100.0K 5Z 1/6W	1

PCBFL : NORMAL AUDIC PWB ASS

MODEL : TIMER/FUNCTION PW A

SYMBOL	PARTS NO	DESCRIPTION	QTY	
***** CAPACITORS *****				
C4026	421C0F49	CERAMIC 50V 1000PF	1	
C4027	42331C52	CERAMIC 50V 200PF	1	
C4024	42968251	C-METAL FILM 50V 1000PF	1	
C4021	42968252	C-METAL FILM 50V 1500PF	1	
C4025	42968259	C-METAL FILM 50V 4700PF	2	
***** TRANSISTORS *****				
C4008	C4009	42968264 C-METAL FILM 50V 0.012UF	2	
C4015	C4016	42968268 C-METAL FILM 50V 0.027UF	1	
C4001	C4002	42968471 C-FILM 50V 680PF 5X	1	
C4005	C4012	42974161 C-FILM 100V 0.033UF 5X	1	
C4013	C4019	430AR109 C-EFIC 16V 10UF	1	
***** DIODES *****				
C4011	C4022	430AR110 C-EFIC 16V 22UF	2	
C4007	C4010	430AR112 C-EFIC 16V 47UF	1	
C4019	C4020	44C1P1	439A1583 C-EFIC 10UF 16V	1
C4018	C4021	439A1602 C-EFIC 10UF 50V	1	
C4004				
***** RELAYS & SWITCHES *****				
X2001		39080023 4.19MHZ RESONATOR	1	
***** RELAYS & SWITCHES *****				
SW2C01	SW2002	SW2C04	65330C52 TACT SWITCH	19
SW2C06	SW2007	SW2C08		
SW2C09	SW2010	SW2C12		
SW2C14	SW2015	SW2C16		
SW2C17	SW2018	SW2C20		
SW2C21	SW2022	SW2C26		
SW2C37				

SYMBOL	PARTS NO	DESCRIPTION	QTY	
***** ICS *****				
IC2CC3		37101286 IC M5278L56	1	
IC2001		37151363 MOS UPD75216ACW-021 N9055	1	
***** TRANSISTORS *****				
TR2C11		35501931 TR 2SC2785 (E,F,H,J)AT	1	
TR2C02	TR2003	TR2004	35502716 TR,BA1F4M	3
TR2C01			355K2220 DIGITAL TRANSISTOR	1
TR2C05			35542716 BA1F4M (C,22K)	1
***** DIODES *****				
D2005	D2006	D2011	360KA009 DIODE 1S2473 AT26	3
D2001	D2002	D2003	360KA025 DIODE,155133	17
D2004	D2007	D2008		
D2009	D2C10	D2C12		
D2013	D2014	D2C15		
D2016	D2C17	D2C22		
D2026	D2031		360KC072 DIODE MA165 AT26	1
D2047	D2047	D2053	36001025 DIODE 155133	1
ZD2C01			369KE180 ZENER DIODE RD9-1EB3,AT26	1
LD2C02	LD2003		36904263 LED RED SLR-34VC3	2
***** VARIABLE RESISTORS *****				
X2001		39080023 4.19MHZ RESONATOR	1	
***** ELECTRICAL PARTS & MISCELLANEOUS PARTS *****				
X2002		64004151 X'TAL 32.768KHZ	1	
FD2C01		67930062 FIPSTM7 (VPS)	1	

MODEL : TIMER/FUNCTION PWB A

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** APPEARANCE PARTS ***			
R2037	R2C39	401KE657 R,CARBON 220H 5% 1/6W	7
R2040	R2042	401KE657 R,CARBON 220H 5% 1/6W	1
R2043	R2C26	401KE661 R,CARBON 330H 5% 1/6W	2
R2025	R2C26	401KE665 R,CARBON 470H 5% 1/6W	1
R2001	R2C13	401KE673 R,CARBON 1.0K 5% 1/6W	1
R2004	R2C09	401KE697 R,CARBON 10K 5% 1/6W	8
R2011	R2012	401KE717 R,CARBON 48K 5% 1/6W	1
R2029	R2C45	401KE721 R,CARBON 10K 5% 1/6W	4
R2014	R2C30	401KE721 R,CARBON 10K 5% 1/6W	1
R2024	R2C33	401KE729 R,CARBON 220K 5% 1/6W	2
R2002	R2C33	401KE733 R,CARBON 330K 5% 1/6W	1
R2003	R2C33	401KE741 R,CARBON 680K 5% 1/6W	1
R2049	R2006	40105649 R,CARBON 100H 5% 1/6W	1
R2015	R2006	409HB685 R,CARBON 3.3K 5% 1/4W	1
R2008	R2008	409HB697 R,CARBON 10K 5% 1/4W	1
*** CAPACITORS ***			
C2016	C2024	42025 C2108C37 C,CERAMIC 50V 100PF	7
C2026	C2027	C2028	1
C2029	C2008	42108049 C,CERAMIC SCV 1000PF	1
C2007	C2008	42108237 C,CERAMIC SCV 100PF	4
C2010	C2023	42108461 C,CERAMIC 16V 0.01UF	2
C2003	C2015	C2C22 42108863 C,CERAMIC 25V 0.022UF	3
C2006	C2013	423A2C37 C,CERAMIC 50V 47PF	2
C2001	C2C05	430A8109 C,ELEC 16V 100UF	3
C20C2	C2008	430A8124 C,ELEC SCV C-1UF	1
C2C21	C2008	430A8131 C,ELEC SCV 4.7UF	1
C2C04	C2008	430A8351 C,ELEC SCV 3.3UF	1

MODEL : SUB FUNCTION PWB ASS

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** DIODES ***			
D203C	D2032	D2C33 360KAC25 DIODE,1SS133	6
D2034	D2036	D2C45 360KCC972 DIODE MA165 AT26	1
D2045	D2042	36904262 LED GRN SLR-34MC3	1
LD2C01	LD2C01	LD GRN SLR-34MC3	1
*** VARIABLE RESISTORS ***			
VR2C01	VR2C01	VR2C01 41504194 VR RK931 500KB (L=20)	1
VR2C02	VR2C02	VR2C02 41504202 VR 20KB RK931 (L=20)	1
*** RELAYS & SWITCHES ***			
SW2C38	SW2039	SW2C41 65180052 SLIDE SW 1-1-2	4
SW2042	SW2013	SW2C41 65180060 SW,SLIDE	1
SW2C40	SW2013	SW2C41 65180060 SW,SLIDE	1
SW2C11	SW2013	SW2C41 65330052 TACT SWITCH	1
SW2C23	SW2028	SW2C41 16447151 LED HOLDER B	1
*** APPEARANCE PARTS ***			
R2036	R2036	R2036 401KE661 R,CARBON 330H 5% 1/6W	1
*** RESISTORS ***			
R2037	R2C39	401KE657 R,CARBON 220H 5% 1/6W	7
R2040	R2042	401KE657 R,CARBON 220H 5% 1/6W	1
R2043	R2C26	401KE661 R,CARBON 330H 5% 1/6W	2
R2025	R2C26	401KE665 R,CARBON 470H 5% 1/6W	1
R2001	R2C13	401KE673 R,CARBON 1.0K 5% 1/6W	1
R2004	R2C09	401KE697 R,CARBON 10K 5% 1/6W	8
R2011	R2012	401KE717 R,CARBON 48K 5% 1/6W	1
R2029	R2C45	401KE721 R,CARBON 10K 5% 1/6W	4
R2014	R2C30	401KE721 R,CARBON 10K 5% 1/6W	1
R2024	R2C33	401KE729 R,CARBON 220K 5% 1/6W	2
R2002	R2C33	401KE733 R,CARBON 330K 5% 1/6W	1
R2003	R2C33	401KE741 R,CARBON 680K 5% 1/6W	1
R2049	R2006	40105649 R,CARBON 100H 5% 1/6W	1
R2015	R2006	409HB685 R,CARBON 3.3K 5% 1/4W	1
R2008	R2008	409HB697 R,CARBON 10K 5% 1/4W	1
*** CAPACITORS ***			
C2016	C2024	C2025 42108C37 C,CERAMIC 50V 100PF	7
C2026	C2027	C2028	1
C2029	C2008	42108049 C,CERAMIC SCV 1000PF	1
C2007	C2008	42108237 C,CERAMIC SCV 100PF	4
C2010	C2023	42108461 C,CERAMIC 16V 0.01UF	2
C2003	C2015	C2C22 42108863 C,CERAMIC 25V 0.022UF	3
C2006	C2013	423A2C37 C,CERAMIC 50V 47PF	2
C2001	C2C05	430A8109 C,ELEC 16V 100UF	3
C20C2	C2008	430A8124 C,ELEC SCV C-1UF	1
C2C21	C2008	430A8131 C,ELEC SCV 4.7UF	1
C2C04	C2008	430A8351 C,ELEC SCV 3.3UF	1

SYMBOL	PARTS NO	DESCRIPTION	QTY	
*** COT R TUNER ***				
	34303021	U/V TUNER(CCATV)	1	
*** ICS ***				
IC31C4	37101127	IC UPC-393C	1	
IC30C1	37101240	IC LA7530	1	
IC31C3	571012P4	IC LA721C	1	
IC31C2	7151324	POS M58655P (EAROM)	1	
IC31C1	7903162	IC LA791C (X0260C)	1	
*** TRANSISTORS ***				
TP31C8	35004113	TR25A916, M	1	
TP31C4	35055312	TR 2SC2701 L	1	
TP31C5	35058012	TR 2SC2352 L	1	
TP30C3	TR31C2	TR25C2785(E,F,H,J)AT	3	
TP30C1	TR3007	TR31C1	35501531	
TP31C2	TR3007	TR25A1175 (E,F,H,J)	4	
TP30C4	75940502	TR2SC1730 L	1	
*** DIODES ***				
D1101	D31C2	3601KA06, DIODE,1SS133	6	
D31C4	D71C7	1610306C, ZENER DIODE UPC-574J	1	
ZD31C1				
*** VARIABLE RESISTORS ***				
X31C1	36080012	CERAMIC RESC, CSP500ES	1	
VR31C1	6105114P	R, VARIABLE 10K, P	1	
*** COILS & FILTERS ***				
L1C1	61062765	COIL FILTER	1	
L1C1C4	61062772	COIL FILTER	1	
L1C1C5	61011531	SAW COIL 10P	1	
L1C1C2	61011575	SAW COIL 20P	1	
L1C1C1	611C7C4	CERAMIC DISCRIMINATOR	1	
FL3C1C2	61185C12	SIR FILTER 5.5MHz	1	
FL3C1C3	61137C37	CERAMIC TRAP TPS5.5MHz	1	
FL3C1C2	61180C22	VIF SAWF SAF38.9MHz2722	1	
FL3C1C1	61F15155	V-IFIT (9.5TURN)	2	
*** ELECTRICAL PARTS & MISCELLANEOUS PARTS ***				
*** APPEARANCE PARTS ***				
165P7402 TUNER SHIELD CASE				
707F0009 CAPLF,CONNECTOR (110MM)				
*** RESISTORS ***				
R3037		401KFC25	R, CARBON 10K 5% 1/6W	1
R3035		401KFC41	R, CARBON 47K 5% 1/6W	1
R3025		401KFC45	R, CARBON 68K 5% 1/6W	1
R3026		401KFC49	R, CARBON 100K 5% 1/6W	1
R3023		401KFC53	R, CARBON 150K 5% 1/6W	1
R3032		401KFC57	R, CARBON 220K 5% 1/6W	1
R3003		401KFC59	R, CARBON 270K 5% 1/6W	1
R3011		401KFC61	R, CARBON 330K 5% 1/6W	3
R3024		401KFC62	R, CARBON 390K 5% 1/6W	1
R3104		401KFC65	R, CARBON 470K 5% 1/6W	2
R3018		401KFC69	R, CARBON 680K 5% 1/6W	2
R303P		401KFC73	R, CARBON 680K 5% 1/6W	2
R3015		401KFC77	R, CARBON 1.0K 5% 1/6W	7
R3127				
R3143				
R3142		401KFC75	R, CARBON 1.2K 5% 1/6W	1
R310C		401KFC72	R, CARBON 2.0K 5% 1/6W	7
R31C3		401KFC81	R, CARBON 2.0K 5% 1/6W	7
R3122		401KFC85	R, CARBON 3.3K 5% 1/6W	1
R311C				
R3174		401KFC67	R, CARBON 3.9K 5% 1/6W	1
R30C2		401KFC72	R, CARBON 4.7K 5% 1/6W	5
R3125		401KFC74	R, CARBON 4.7K 5% 1/6W	4
R30C5		401KFC91	R, CARBON 5.6K 5% 1/6W	1
R2021		401KFC93	R, CARBON 6.8K 5% 1/6W	1
R3111		401KFC97	R, CARBON 10K 5% 1/6W	2
R3022		401KFC99	R, CARBON 12K 5% 1/6W	1
R2141		401KFC701	R, CARBON 15K 5% 1/6W	1
R3114		401KFC702	R, CARBON 18K 5% 1/6W	4
R2146				
R3112		401KFC76	R, CARBON 22K 5% 1/6W	2
R3008		401KFC77	R, CARBON 27K 5% 1/6W	1
R3012		6310C0	R, CARBON 47K 5% 1/6W	1
R3145		6315C0	R, CARBON 47K 5% 1/6W	1
R2147		6317C0	R, CARBON 68K 5% 1/6W	1
R310C		6311C4	R, CARBON 100K 5% 1/6W	1
R31C7		6312C3	R, CARBON 220K 5% 1/6W	2

MODEL : TUNER/IF PCB ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
R3144	401KE733	R-CARBON 33Ω 5Ω 1/6W	1
R31C4	R3106	401KE737 R-CARBON 47Ω 5Ω 1/6W	2
R3119		R-CARBON 47Ω 5Ω 1/6W	1
R3118		401KE741 R-CARBON 47Ω 5Ω 1/6W	1
R3133		401KE745 R-CARBON 1.5Ω 5Ω 1/6W	1
R3152		40809989 R-FUSE 2.2Ω 5Ω 1/6W	1
R3137	R3138	409HB641 R-CARBON 47Ω 5Ω 1/6W	1
R3027	R3031	409HB721 R-CARBON 16Ω 5Ω 1/6W	2
R3151		40913109 R-CARBON 2.2Ω 5Ω 1/6W	3
		40913125 R-CARBON 10Ω 5Ω 1/6W	1
*** CAPACITORS ***			
C3110		421C8C43 C-CERAMIC 5CV 530PF	1
C31C9	C3118	421C8D49 C-CERAMIC 5CV 1000PF	1
C3007	C3010	421C8E41 C-CERAMIC 16V 0.01UF	12
C3014	C3015	421D8C40 C-CERAMIC 16V 0.01UF	1
C3031	C3032	421D8C41 C-CERAMIC 16V 0.01UF	1
C3034	C3101	421D8113 C-CERAMIC 25V 0.01UF	1
C30C1	C3C02	421D8125 C-CERAMIC 25V 0.01UF	1
C3120		421D8425 C-CERAMIC 25V 0.01UF	1
C3004		423A2C15 C-CERAMIC 5CV 10PF	1
C3018		423A2D25 C-CERAMIC 5CV 15PF	1
C3025		423A6C03 C-CERAMIC 5CV 3PF	1
C3011	C3012	423A6C40 C-CERAMIC 5CV 62PF	2
C30C5		42968267 C-METAL FILM 50V 0.022UF	1
C3008		430A8109 C-ELEC 1CV 10UF	1
C3019		430A8110 C-ELEC 1CV 22UF	1
C3016	C3021	430A8112 C-ELEC 1CV 47UF	4
C3115			
C3111	C3114	430A8127 C-ELEC 50V 0.47UF	2
C30C3	C3108	430A8128 C-ELEC 50V 1UF	2
C30C4		430A8130 C-ELEC 50V 2.3UF	1
C3106		430B6068 C-ELEC 50V 47UF	1
C3117		43018103 C-ELEC 6.3V 47UF	1
C31C2	C3104	439HB0049 C-ELEC 50V 0.22UF	1
*** RESISTORS ***			
R509		R510	4C1KE625 R-CAPTON 10Ω 5Ω 1/6W
R508		R509	4C1KE633 R-CAPTON 22Ω 5Ω 1/6W
R504		R505	4C1KE643 R-CAPTON 5Ω 5Ω 1/6W
R504		R516	4C1KE649 R-CAPTON 100Ω 5Ω 1/6W
R505		R517	4C1KE657 R-CAPTON 22Ω 5Ω 1/6W
R515		R516	4C1KE659 R-CAPTON 27Ω 5Ω 1/6W
R507	R511	R520	4C1KE661 R-CAPTON 33Ω 5Ω 1/6W
R503		R517	4C1KE669 R-CAPTON 47Ω 5Ω 1/6W
R517		R518	4C1KE671 R-CAPTON 82Ω 5Ω 1/6W
R522		R519	4C1KE673 R-CAPTON 1.1Ω 5Ω 1/6W
R513	R521	R522	4C1KE677 R-CAPTON 1.5Ω 5Ω 1/6W
R502		R523	4C1KE679 R-CAPTON 1.8Ω 5Ω 1/6W
R530		R524	4C1KE685 R-CAPTON 2.3Ω 5Ω 1/6W
R501		R525	4C1KE693 R-CAPTON 4.8Ω 5Ω 1/6W
R512		R526	4C1KE697 R-CAPTON 10Ω 5Ω 1/6W

W01FL : FPE AMP. PCB ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
IC5C1		37151238 1C AN6326N (HEAD AMP)	1
TR5C1		35501931 1W 2SC2785 (E,F,H,J)AT	5
TR5C2		35543200 1R,2SC2184	1
TR5C4		35562244 1P,2SD639 R,S	1
*** TRANSISTORS ***			
TP5C2		TP5C2 1P55C 1P55T	1
TP5C4		TP5C4 1P50T	1
*** FILTERS ***			
L50P		610G1545 FILTER COIL 2200UH	1
L50F		610G1P1P FILTER COIL 0405 12UH,AT	1
L501		610G1P1Q FILTER COIL 0405 15UH,AT	1
L502		610G1P21 FILTER COIL 0405 22UH,AT	1
L505		610G1P25 FILTER COIL 0405 47UH,AT	1
L507		610G1826 FILTER COIL 0405 56UH,AT	1
L502		610G1F26 FILTER COIL 0405 100UH,AT	2
*** APPEARANCE PARTS ***			
		165P2291 SHIELD CASE COVER A	1
		165P2301 SHIELD CASE COVER B	1
		165P2311 SHIELD CASE FRAME	1

WORKS OF APPROPRIATE ASSOCIATION

MORE ON SCREEN DIA

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** CAPACITORS ***			
C501	421CPC17	C,CERAMIC 5CV 15PF	1
C516	421CP025	C,CERAMIC 50V 33PF	1
C518	421CP135	C,CERAMIC 5CV 82PF	1
C525	421CB474	C,CERAMIC 5CV 560PF	1
C517	421CP451	C,CERAMIC 16V 1500PF	1
C506	421CP457	C,CERAMIC 16V 4700PF	1
C505	C515	421CH461	1
C5C4	C513	421CH462	3
C524	C510	421CH463	4
C507	C510	421J5C00	1
C502		429C0337	2
C505	C514	42930317	1
C512		4290AP107	2
C521		C,ELEC 1CV 47UF	1
C507		430AP8109	1
C511		C,ELEC 16V 100UF	1
C512		C,ELEC 16V 47UF	1
C511		C,ELEC 5CV 222UF	1

MORE ON SCREEN DIALECTS

SYMBOL	PARTS NO	DESCRIPTION	QTY		
IC6CC1	1RS	*** TRANSISTOR	1		
	37151375	PCS M5C455-C52SF (US CSD)			
TP6CC1	TR6C05	355D1931	1		
TR6CC2	TR6C06	TR 25C2785 (E,F,H,J)AT	3		
TR6CC3	TR6C04	355k1131	2		
TR6CC4	TR6C03	TR,2SA1175 (E,F,H,J)	2		
		*** DIODES	1		
D60C1	360KA025	DIODE, 155133	1		
		*** COILS & FILTERS	1		
L60C2	61061822	FILTER COIL C405 27UH,AT	1		
L60C1	61061820	FILTER COIL C405 100UH,AT	1		
		*** APPEARANCE PARTS	2		
	16583101	SCREEN PLR PKACKET	1		
	16875531	SCREW M3*8*15RF	2		
		*** RESISTORS	1		
R6029	401KE675	R, CARBON 10H 5% 1/6W	1		
R6016	401KE645	R, CARBON 68H 5% 1/6W	1		
R6017	401KE640	R, CARBON 100H 5% 1/6W	1		
R604	401KE657	R, CARBON 22CH 5% 1/6W	1		
R603	401KE671	R, CARBON 82CH 5% 1/6W	1		
R6015	401KE674	R, CARBON 1.0K 5% 1/6W	1		
R6C11	401KE671	R, CARBON 2.0K 5% 1/6W	2		
R6013	401KE675	R, CARBON 3.0K 5% 1/6W	1		
R6010	401KE680	R, CARBON 4.7K 5% 1/6W	2		
R6001	401KE697	R, CARBON 6.8K 5% 1/6W	2		
R6020	P6C24	R60176	401KE697	R, CARBON 10Y 5% 1/6W	1
R60C2	R6C19	P6C22	401KE701	R, CARBON 15K 5% 1/6W	2
R6C14	P6C22	R6C28	401KE705	R, CARBON 22K 5% 1/6W	5
R6027	R6C28				
R6C06			401KE712	R, CARBON 43Y 5% 1/6W	1
P6C25			401KE717	R, CARBON 47K 5% 1/6W	1
R60C8			401KE715	P, CARBON 56K 5% 1/6W	1
R60C5			401KE721	R, CARBON 16CK 5% 1/6W	1
R60C9			401KE723	R, CARBON 35CK 5% 1/6W	1
R6C12			401KE737	R, CARBON 47CK 5% 1/6W	1

MODEL : ON SCREEN PWR ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** CAPACITORS ***			
C60C4	C60C5	CERAMIC 5CV 1C PF	2
C6010	C6014	CERAMIC 5CV 1COPF	2
C6016	C6017	CERAMIC 1EV 2700PF	2
C60C7	C6012	CERAMIC 25V 0.022UF	2
C60C8	C60C9	CERAMIC 5CV 82PF	1
C60C1	C60C2	C-ELEC 6.3V 47UF	2
C6013	C60C6	C-ELEC 6.3V 47UF	2
C60C5	C60A8105	C-ELEC 1CV 72UF	1
C6011	C60A8127	C-ELEC 5CV 0.47UF	1
C60C6	C60A812P	C-ELEC 5CV 1UF	2

MODEL : DIGITAL PWR ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** ICS ***			
IC5C12	IC5013	LA7016 ANALOG SW	2
IC5015		37101274 IC BA236	1
IC5C04	IC5005	37101318 IC MN 3106	2
IC5C02		37101332 IC HA19216	1
IC5003		37101333 IC HA19508	1
IC5016		MOS HD14040B	1
IC5C06	IC5007	MOS UPD41464CF-12	6
IC5009	IC5010	MOS UPD65C31G-153-12	1
IC5001		37151355 MOS UPD65C31G-153-12	1
*** TRANSISTORS ***			
TR5C02	TR5003	TR5C05	35501631 TR 2SC2785(E,F,H,J)AT
TR5006	TR5007	TR5C10	15
TR5C13	TR5016	TR5018	
TR5C19	TR5022	TR5C25	
TR5C33	TR5037	TR5C39	
TR5C40		35502710 TR,DT124ES,AT	1
TR5C15	TR5026	TR5035	35502716 TR,BA1F4M
TR5036			
TR5C38		35502717 TR,BA1L4M	
TR5001	TR5009	TR5C11	355K1131 TR,2SA1175 (E,F,H,J)
TR5014	TR5017	TR5C23	
TR5030	TR5031	TR5034	
TR5032		355K2110 BN1F4M (A,22K) AT	1
TR5C21		355K2111 BN1L4M (A,47K) AT	1
TR5043		35541931 TR,2SC2785(E,F,H,J)	1
TR5041	TR5042	35542710 DTC 124ES	2
*** DIODES ***			
D5001	D5002	D5003	360KAC25 DIODE,1SS133
D5004	D5005	D5008	
D5010	D5011	D5012	
D5013	D5015	D5016	
D5017	D5021	D5022	
D5024	D5025	D5026	
D5023	D5027	360001025 DIODE 1SS133	2
2D5001		36905040 ZENER,DIODE RD-5.1E82-H	1
ZD5CC2		36905141 ZENER DIODE RD2-0EB(A)	1
*** VARIABLE RESISTORS ***			
VR5CC3		41951245 R VARIABLE 47CB	1
VR5C01	VR5002	41951254 R VARIABLE 10KB	2
VR5CC4	VR5005	4195126C R VARIABLE 100KB	2

MODEL : DIGITAL PWR ASSY

MODEL : DIGITAL PWR ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY	
*** COILS & FILTERS ***				
L5011	61061511	FILTER COIL 3.3UH AT (S)	1	
L5008	61061522	FILTER COIL 27UH AT (S)	1	
L5001	L5002	61061623	FILTER COIL 33UH AT (S)	8
L5004	L5006	61071618	FILTER COIL 39UH AT (S)	1
L5013	L5014	61071618	COIL+FILTER 12UH(S)	1
L5015	61061624	FILTER COIL 39UH AT (S)	1	
FL5CC2	61827C39	4.43MHZ B.P. F	1	
FL5CO2	61827C65	5.0MHZ L.P. F	1	
FL5001	61911196	LFF ZLB-SM1845	1	
*** APPEARANCE PARTS ***				
16286431	PWB HINGE		2	
16448542	LOCK HANGER		1	
16582911	DIGITAL PARTN SHIELD		1	
16582951	DIGITAL PATTERN SHIELD		1	
16631251	SHEET		1	
*** RESISTORS ***				
R5074	401KE653	R-CARBON 150H 5X 1/6W	1	
R5012	R5013	401KE661	R-CARBON 330H 5X 1/6W	3
R5064	401KE665	R-CARBON 470H 5X 1/6W	1	
R5020	401KE666	R-CARBON 510H 5X 1/6W	1	
R5065	401KE667	R-CARBON 560H 5X 1/6W	1	
R5062	401KE669	R-CARBON 680H 5X 1/6W	1	
R5002	R5003	401KE673	R-CARBON 1.0K 5X 1/6W	15
R5026	R5027	R5029		
R5030	R5049	R5051		
R5055	R5056	R5068		
R5063	R5068	R5076		
R5024	401KE675	R-CARBON 1.2K 5X 1/6W	1	
R5048	401KE678	R-CARBON 1.6K 5X 1/6W	2	
R5010	R5011	401KE679	R-CARBON 1.8K 5X 1/6W	2
R5022	R5128	R5173	401KE680 R-CARBON 2.0K 5X 1/6W	3
R50C7	R5025	401KE681	R-CARBON 2.2K 5X 1/6W	2
R50C4	R5006	R5016	R-CARBON 2.7K 5X 1/6W	5
R5084	R5132	R5101	401KE684 R-CARBON 3.0K 5X 1/6W	1
R5066	R5092	401KE685	R-CARBON 3.3K 5X 1/6W	4
R51C3				
R5CC5	R5C08	R5018	401KE687 R-CARBON 3.9K 5X 1/6W	6
R5015	R5C43	R5C44		1
R5073	R5083	R5117	401KE689 R-CARBON 4.7K 5X 1/6W	12

SYMBOL	PARTS NO	DESCRIPTION	QTY	
*** DIGITAL PWR ASSY ***				
R5113	R5114	R5115	401KE689 R-CARBON 4.7K 5X 1/6W	12
R5116	R5117	R5121		
R5122	R5123	R5126	401KE693 R-CARBON 6.8K 5X 1/6W	1
R5070		401KE695 R-CARBON 8.2K 5X 1/6W	1	
R5015	R5054	R5131	401KE697 R-CARBON 10K 5X 1/6W	4
R5028	R5081	R5093	401KE699 R-CARBON 12K 5X 1/6W	2
R5069		401KE7C1 R-CARBON 15K 5X 1/6W	2	
R5C96		401KE7C3 R-CARBON 18K 5X 1/6W	1	
R5106	R5135	401KE713 R-CARBON 67K 5X 1/6W	2	
R5050	R5104	R510P	401KE721 R-CARBON 100K 5X 1/6W	3
R5086		401KE725 R-CARBON 150K 5X 1/6W	1	
R5088		401KE735 R-CARBON 390K 5X 1/6W	1	
R5125	R51C9	R5129	401KE741 R-CARBON 680K 5X 1/6W	3
R51C9		401KE745 R-CARBON 1.0M 5X 1/6W	1	
R5124		40105235 R-CARBON 390K 5X 1/6W	1	
R5134		40105657 R-CARBON 220H 5X 1/6W	1	
R5127		40105660 R-CARBON 300H 5X 1/6W	1	
R5139		40105695 R-CARBON 8.2K 5X 1/6W	1	
R5136		40105697 R-CARBON 10K 5X 1/6W	1	
R5138		401057C4 R-CARBON 20K 5X 1/6W	1	
R5095		40105727 R-CARBON 180K 5X 1/6W	1	
*** CAPACITORS ***				
C5064		421C8027 C-CERAMIC 50V 39PF	1	
C5020		421C8029 C-CERAMIC 50V 47PF	1	
C5041		421CB043 C-CERAMIC 50V 330PF	1	
C5066		421CB045 C-CERAMIC 50V 470PF	1	
C5072		421CB34 C-CERAMIC 16V 2700PF	1	
C5017		421C8457 C-CERAMIC 16V 4700PF	1	
C5008		421C863 C-CERAMIC 25V 0.022UF	18	
C5012		C5C15		
C5034		C5C16		
C5040		C5C49		
C5057		C5C62		
C5079		C5081		
C5086		42132C23 C-CERAMIC SCV 27PF	1	
C5084		42132C3 C-CERAMIC 50V 330PF	1	
C5082		42132B63 C-CERAMIC 25V 0.022UF	1	
C5051	C5C52	C5C53	42181377 C-CERAMIC 25V 0.022UF	7
C5055	C5C56			
C5073		42966908 C-FILM 50V 0.039UF	1	
C5016		42966912 C-FILM 50V 0.082UF	1	
C5077		42966921 C-METAL FILM 50V 0.47UF	1	
C5042		42966928 C-METAL FILM 50V 3900PF	1	

MODEL : DIGITAL PWB ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
C5085	42968261	C-METAL FILM 50V 6800PF	1
C5085	42968268	C-METAL FILM 50V 0.027UF	1
C5021	42968269	C-METAL FILM 50V 0.033UF	1
C5059	4291044	C-CERAMIC 50V 0.1UF	1
C5052	42978169	C-METAL FILM 50V 0.033UF	1
C5023	42978269	C-METAL FILM 50V 0.033UF	1
C5082	430A8101	C-ELEC 6.3V 22UF	1
C5007	C5C35	C-ELEC 6.3V 100UF	7
C5047	C5074	C-ELEC 6.3V	1
C5080	C5027	430A8109 C-ELEC 16V 100UF	1
C507C	C5C29	430A8110 C-ELEC 16V 22UF	7
C5022	C5037	C-ELEC 16V	1
C5031	C5046	C-ELEC 16V	1
C5061			
C5005	C5025	C5068	3
C5075		430A8112 C-ELEC 16V 100UF	1
C5028		430A8128 C-ELEC 50V 1UF	1
C5028		430A8131 C-ELEC 50V 4.7UF	1
C5087		430A8103 C-ELEC 6.3V 470UF	1
C5013	C5C60	43018104 C-ELEC 6.3V 100UF	2
C5090		43018105 C-ELEC 10V 22UF	1
C5067		43018110 C-ELEC 16V 22UF	1
C5006		43018112 C-ELEC 16V 470UF	1
C5038		43018113 C-ELEC 16V 100UF	1
C5002		4331010 C-ELEC 16V 10UF	1

KONFL : VFS DECEFF. PWB ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
		*** ICS ***	1
IC871		371013CS	1
IC872		3710131C	1
		*** DIODES ***	1
		360KA025 DIODE,1SS133	1
		*** COILS & FILTERS ***	1
D871		61067C17 COIL, FILTER 1CUH	1
		*** ELECTRICAL PARTS & MISCELLANEOUS PARTS ***	1
X871		64004146 XTAL HC-49U 10.0000MHz	1
		*** RESISTORS ***	1
R872	R873	4C1KE697 R/CARTRON 10K 5%	1
R871		4C1KE721 R/CARTRON 10K 5%	1
		*** CAPACITORS ***	1
C872	C875	421AC426 CERAMIC SCV 0.022UF	1
C875	C871	421CC217 CERAMIC SCV 100PF	1
C873	C872	42301042 C- FILM 50V 470UF 52	1
C879	C875	423A104 C-CERAMIC SCV 100PF	1
C875	C871	423A105 C-CERAMIC SCV 270PF	1
C876	C875	423A11C1 C-CERAMIC SCV 0.022UF	1
C872	C875	423A2C25 C-CERAMIC SCV 15PF	1
C877		42966500 C-FILM 50V 470UF	1
C862	C875	42990F54 C-METAL FILM 53V 1.068UF	1
C877	C875	42990F64 C-METAL FILM 53V 1.47UF	1
C874	C875	471.0E114 C-ELEC 25V 4.7UF	1
C874	C875	471.0E114 C-ELEC 25V 2.2UF	1

MODEL : CHASSIS PWB ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** PWB ASSYS ***			
PA01	E1674E01	SYS/EE/VIL PWB ASSY	1
PA02	E1674E01	INHERIT PWB ASSY	1
PA03	E1674E01	11MFN/FUNCTION PWB ASSY	1
PA04	E1674E01	DIGITAL PWB ASSY	1
PA05	E1674E01	INTERNAL AUDIC PWB ASSY	1
PA06	E1674E01	INTERNAL AUDIC PWB ASSY	1
PA07	E1674E01	SUP FUNCTION PWB ASSY	1
PA08	E1674E01	SUP FUNCTION PWB ASSY	1
PA09	E1674E01	VPS DECODE PWB ASSY	1
PA10	E1674E01	OP SCREEN PWB ASSY	1
PA11	E1674E01	PPF APP PWB ASSY	1
PA12	79574K01	PLAYER/REG UNIT (DG-G-2)	1

MODEL : MECHANICAL PWB ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** MECHANICAL PARTS ***			
B003	16177P71	S. SOFT BRAKE ARM ASSY	1
B004	16177P82	TU-SOFT BRAKE ARM ASSY	1
B005	16177P22	LOADING UP ASSY	1
B006	16177P32	LOADING LOW ASSY	1
B007	16178003	C-BRAKE ASSY	1
B010	16178062	S-PFPL DISK ASSY	1
B012	16178223	GUIDE ROLLER ASSY	1
B014	16178301	EARTH PLATE S.A.	1
B015	16176392	MOOF GEAR ASSY	1
B009	16179853	REFL. DISK ASSY (2)	1
B071	16180351	S-LOADING POST ASSY	1
B011	16180503	IMPEDANCE ROLLER ASSY	1
B001	16180801	R-ROLLER ASSY	1
B002	16182101	TU SLANT RASE ASSMBLY	1
B092	16183542	TENSION ARM ASSY (M2)	1
B094	16183551	TENSION HAND ASSY (M2)	1
B095	16183632	BRAVE ARM (R)ASSY (M2)	1
B016	16183742	REVERSE ARM ASSY	1
B066	16183657	PITCH RCLLER ARM ASSY (M2)	1
B069	161F3C71	WCLL CAP ASSY (M2)	1
B073	1618391	LFD HOLDER ASSY	1
B093	16184071	UPAYE LINK ARM ASSY (DC)	1
B084	16184371	R-DRIVE ASSY (M2)	1
B067	1618671	PINCH-LINK ASSY	1
B018	162P7641	NUT	4
B023	162F8C01	POLY SLIDER	2
B024	162P871	CLAMP	1
B020	164421C1	GUIDE ROLLER	6
B021	16442111	GUIDE ROLLER HOLDER	3
B022	16442121	GFAR (1)	1
B029	16442131	GFAP (2)	1
B030	16574211	DRIVE PFLY	1
B027	1643262	GFAR	1
B028	16442274	G-F CAP	1
B098	16448741	ACT CODE CRAMPER	1
B082	16536121	COLLAP	2
	16574211	FRANGE	3
	16534251	COLLFP	2
	16574262	FIR	1
	16534971	TAPER FLANGE	1

MODEL : MECHANICAL PWB ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
B035	16578922	SPRING	1
B036	16578941	SPRING	1
B037	16578972	GUIDE PIN SPRING	1
B042	16579172	SPRING	1
B068	16579261	PINCH LINK SP.PLATE	2
B044	16579411	SPRING (REV.ARM)	1
B047	16580681	IMPEDANCE ROLLER SPRING (C)	1
H041	16580762	C.BRAKE SPRING (3)	1
P100	16582031	BRAKE LINK (2)	1
H101	16582041	LINK RETURN SPRING	1
B102	16582051	LOCK LEVER SPRING	1
H033	16582161	TENSION SPRING (M2)	1
A104	16582201	BRAKE LINK (1)	1
H089	16582611	IP SPRING NO.2 (1)	1
A038	16582761	S.SOFT BRAKE SPRING	1
B039	16582771	TU.SOFT BRAKE SPRING	1
B100	16582931	SPRING (T.A)	1
B047	16628751	SLIT WASHER	2
B049	16629291	SLIT WASHER	1
H051	16629412	SLIT WASHER	1
H052	16629422	SLIT WASHER	1
H050	16629591	SLIT WASHER	9
H512	16629591	SLIT WASHER	1
B049	16629781	SCREW,HS M2.6*6+15BF	2
B054	16629412	SLIT WASHER	1
B055	16629422	SLIT WASHER	1
B056	16629591	SLIT WASHER	9
B057	16629591	SLIT WASHER	1
B058	16629781	SCREW,HS M2.6*6+15BF	3
B059	16629781	SCREW,HS M2.6*6+15BF	3
B055	166297731	SPECIAL SCREW	3
B056	166297741	SCREW,2.6*8*15BF	3
B057	166297761	SFT SCREW,2*2.7*35KF	1
B058	166298101	SPECIAL SCREW	4
B059	166298201	SPECIAL SCREW	2
B060	18851031	FLUSH FF DIA 4	1
B061	16516371	VIRE CLAMPER-H	1
B062	70780021	FFC CABLE 1FF*4.5MM	1
B072	79501111	FF HEAD	1
B060	79501151	ACE HEAD ASSY (M2-MONO2)	1
B061	79502074	CAPSTAN MOTOR HMF-3106A	1
B062	82417P1	MOUF SENSOR SASSY	1
B058	826C1FU1	S.SLANT RASE SASSY	1
B059	82601PC1	TU.SLANT RASE SASSY	1
B088	82601FP1	1P ROLLER SASSY	1
B078	16629251	LOADING BELT	1

MODEL : MECHANICAL PWB ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
B096	16286981	WASHER D3.1 T0.5	1
B095	16535261	ACE ADJUST PLATE	1
B511	16A75541	SCREW M3*1C*15BF	3
B510	16877711	PL-CPIMS*2.6*15RF	1
B107	73200031	CONNECTER TRG-P08X-A1	1
B502	910F3131	SCREW,PL-CPIMS 3*6*15HF	3
B508	91012011	SCREW CPIMS 2*4*15HF	1
H501	91012361	SCREW,CPIMS 2.6*10*15EF	3
B101	91122325	SCREW CEBMS 2.6*5*3AF	1

MODEL : SET PWB ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** ELECTRICAL PARTS & MISCELLANEOUS PARTS ***			
A1101	71129050 JACK TERMINAL (10006)	1	
A001	16183124 CASSETTE HOUSING ASSY M2	1	
A002	16184351 FRONT PANEL ASSY DX-10006	1	
A007	16375861 TOP COVER	1	
A102	16445602 SLIDE HINGE	2	
A103	164467131 FRONT COVER DX-10001	1	
A003	16573831 FRONT COVER SPRING	1	
A108	16582361 BOTTOM PLATE	1	
B532	16631221 FUSE COVER (3)	1	
B533	166876431 5.0EW, P1/2 X 12 X 15H6	12	
B534	16878171 OPEN (TOP)	4	
A008	188E6201 SPECIAL SCREW	9	
16184891 PANEL DOOR ASSY			
549910408 SERVICE MANUAL DX-1000G			

MODEL : POWER REGULATOR ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** ELECTRICAL PARTS & MISCELLANEOUS PARTS ***			
IC001	79VA0003 IC M5237L UCZ00972Z	1	
IC002	79VA0004 IC PQ12R02 UCB0028A2	1	
IC030	79VA0033 IC M5237L UCZ00972Z	1	
*** IC ***			
*** TRANSISTORS ***			
TR001	35V02817 TR, 258949 Q	1	
TR002	35V03516 TR, 25A733/733A P	1	
TR003	35V543519 TR, 25C2390	1	
TR005	2SD1266 UAD0090CZ	1	
TR006	35V10610 TR, AA1A4M	1	
TR008	79VA0006 2SD1286 UAD0089AZ	1	
TR009	35V541931 TR, 25C2785 (E, F, H, J)	1	
TR010	35V105056 TR, AA1A4M	1	
TR011	35V920916 TR, 25B548	1	
TR012	79VA0080 TR, AN1F4M	1	
35V924117 25B941 *** DIODES ***			
36V107522 RECTIFIER, SI ERA15-02			
D003	36V107522 RECTIFIER, SI ERA15-02	1	
D004	79VA0083 DIODE 11E1	1	
D005	79VA0083 DIODE 11E1	1	
D006	79VA0083 DIODE 11E1	1	
D007	79VA0083 DIODE 11E1	1	
D008	79VA0083 DIODE 11E1	1	
D009	36V03954 DIODE 1S2076A	1	
D010	36V107522 RECTIFIER, SIERA15-02	1	
D011	36V03954 DIODE 11E1	1	
D030	36V03954 DIODE 1S2076A	1	
D031	79VA0083 DIODE 11E1	1	
D032	79VA0083 DIODE 11E1	1	
D033	79VA0083 DIODE 11E1	1	
D034	79VA0083 DIODE 11E1	1	
2D002	36V05204 ZENER DIODE, RD20EB	1	
2D003	36V05220 ZENER DIODE, RD30EB	1	
*** TRANSFORMER ***			
PT001	79VA0081 TRANSFORMER NH1311	1	
*** SWITCH ***			
SW001	79VA0071 SF-W101W-01BB, PJC0136Z2Z	1	
*** RESISTORS ***			
R003	79VA0008 1/4W2.2KJ(7.5)UEEB22/BA	1	
R004	79VA0009 RS-IPC510HJJSUEFD51BF	1	
R006	79VA0010 1/4W33KGB(7.5)	1	
R007	79VA0011 1/4W33KJ.B(7.5)	1	
R008	79VA0012 1/4W0.22HK, S	1	
R009	79VA0013 1W0.47HK, S	1	
R010	79VA0014 1/4W2.7KJ, B(7.5)	1	
R012	79VA0015 1/4W15KJ.B(7.5)UEEB153BA	1	
R013	79VA0016 1/4W220BJ, B(7.5)	1	

MODEL : POWER REGULATOR ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
R014	79VA0017	1/4W1.2KJ, B(7.5)	1
R015	79VA0018	1/4W10KJ, B(7.5)	1
R017	79VA0011	1/4W4.3KG, B(7.5)	1
R018	79VA0019	1/4W680HJ, B(7.5)	1
R020	79VA0020	1/4W22KJ, B(7.5)	1
R021	79VA0015	1/4W15KJ, B(7.5) UEEB153BA	1
R030	79VA0016	1/4W220BJ, B(7.5)	1
R031	79VA0082	RD1/4WPTY8.2KGB (7.5)	1
R032	79VA0019	1/4W680HJ, B(7.5)	1
R033	79VA0011	1/4W33KJ, B(7.5)	1
R034	79VA0011	1/4W33KJ, B(7.5)	1
L091	79VA0076	CHOKECOIL FKOB160MH15	1
		*** CAPACITORS ***	
79VA0079	CE04W1C72MA		
79VA0021	CE04W1J101MA UGAG101BU		
C003	CE04W1E470MA		
C004	43026041		
C005	79VA0084	CE04W1V222MA	
C006	42976509	CO92V1H472L, A	
C007	43026648	CE04W1E332MA	
C008	43026028	CE04JC470MA	
C009	43026645	CE04W1E471MA	
C010	79VA0022	CE04W2A010MA UGAJ1ROBU	
C011	42311045	CC45SL1H101J, B	
C012	79VA0023	CE04W2A101MA UGAJ101BU	
C013	79VA0063	CE04W1H010MA UGAF1ROBU	
C015	42976525	CQ92V1H104J, A	
C016	79VA0022	CE04W2A010MA UGAJ1ROBU	
C017	43026554	CE04W1V101MA	
C021	79VA0022	CE04W2A010MA UGAJ1ROBU	
C022	79VA0069	CE04W2A470MA UGAJ470BU	
C023	79VA0022	CE04W2A010MA UGAJ1ROBU	
C091	79VA0074	0.1uF UGZ0326Z	
PC001	79VA0076	POWER SUPPLY CORD IEC	1
		EHS02912Z	
	18292501	WIRE CLAMPER #2104	1

MODEL : JACK TERMINAL PWB ASSY

SYMBOL	PARTS NO	DESCRIPTION	QTY
C901	43983306	CE04CO471 (NEW SS)	1
C902	430A8112	CE04C1C470-5BSRA, AT	1
C903	430A8110	CE04C1C220-5BSRA, AT	1
C904	430AB110	CE04C1C220-5BSRA, AT	1
C905	430A8110	CE04C1C220-5BSRA, AT	1
C906	430A8112	CE04C1C470-5BSRA, AT	1
C907	430A8112	CE04C1C470-5BSRA, AT	1
C908	430A8128	CE04C1H010-5BSRA, AT	1
D901	360KA025	DIODE ISS133, AT26	1
IC901	37101250	IC BA7026L	1
	JK901	A/V CONNECTOR (21P)	1
	L901	FILTER COIL L101J, BT ELEPK, A	1
	L902	FILTER COIL L101J, BT ELEPK, A	1
	MD901	RF MODULATOR (PAL, 1 36) AL2	1
	R901	RD1/6PTY10KJ, AT26	1
	R902	RD1/6PTY75HJ, AT26	1
	R903	RD1/6PTY470HJ, AT26	1
	R904	RD1/6PTY75HJ, AT26	1
	R905	RD1/6PTY1.0KJ, AT26	1
	R906	RD1/6PTY1.0KJ, AT26	1
	TR901	TRANSISTOR 25A 952L	1
	LP901	DS310-56B271	1
	LP902	DS310-55B271	1
	C909	696999005	1
	C910	696999005	1
		CC45SL1H391J, B	1
		4231100	1
		CC45SL1H391J, B	1
		42311100	1

MODEL : CASSETTE HOUSING ASSEMBLY

SYMBOL	PARTS NO	DESCRIPTION	QTY
A301	16441731	LOADING BELT	1
A302	35290301	PHOTO TR PT361	2
A303	65330045	TACT SWITCH	2
A304	79902029	DC MICRO MOTOR RF-280R-10350	1
A305	67012026	CASSETTE HOUSE LAMP	1
A306	16582271	MIRROR	1
B070	65907089	REC SAFETY SW	1